M-530V/535V/630V/635VK

SERVICE MANUAL

Ver 1.0 1999. 02

Photo : M-530V

US Model
Canadian Model
M-530V/535V/630V/635VK
AEP Model
E Model
M-530V/535V/630V
Chinese Model
M-630V

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MZ-530V-99

SPECIFICATIONS

Tape
MICROCASSETTE™ (normal position type)
Recording system
2-track 1-channel monaural
Speaker
Approx. 3.6 cm (1 7/16 in.) dia.
Tape speed
2.4 cm/s (15/16 ips), 1.2 cm/s (15/32 ips)
Frequency range
250 - 4,000 Hz (with TAPE SPEED switch at 2.4 cm/s)
Input (M-635VK/630V only)
Microphone input jack (minijack/PLUG IN POWER)
sensitivity 0.24 mV for 3 kilohms or lower impedance microphone
Output
Earphone jack (minijack) for 8 - 300 ohms earphone
Power output (at 10% harmonic distortion)
250 mW
Power requirements
3 V DC batteries size AA (R6) × 2/External DC 3 V power sources
Dimensions (w/h/d)
Approx. 62.2 × 121.5 × 24.3 mm (2 1/2 × 4 7/8 × 31/32 in.) incl. projecting parts and controls
Mass
Approx. 125 g (4.5 oz.)

Supplied accessories
AC power adaptor AC-E351 (1) (M-635VK only)
Battery charge adaptor BCA-35E (1) (M-635VK only)
Rechargeable batteries NC-AA, 1.2 V, 600 mAh, Ni-Cd (2) (M-635VK only)
Microcassette tape MC-30 (1) (M-630V/535V/530V for Europe only)
Batteries R6P (SR) (2) (M-630V for Europe only)
Carrying case (1) (M-630V for Europe only)

Design and specifications are subject to change without notice.

MICROCASSETTE™-CORDER

MICROFILM

SONY®

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Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

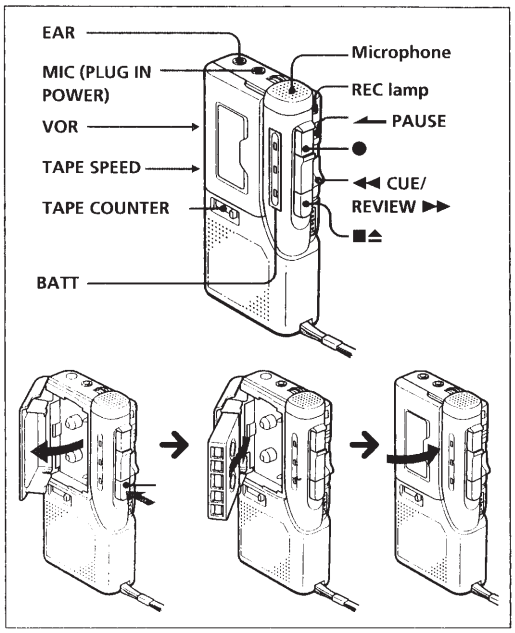
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

This section is extracted from instruction manual.

Recording

Make sure that nothing is connected to MIC (M-635VK/630V only).



1 Press the reset button of the TAPE COUNTER (M-635VK/630V/535V/530V only).
2 Press ■⏏ and insert a standard microcassette with the side to start recording facing the lid.
3 Select the desired tape speed.
2.4 cm for optimum sound (recommended for normal use): A 30-minute recording can be made using both sides of the MC-30 microcassette.
1.2 cm for longer recording time: A 60-minute recording can be made using both sides of the MC-30 microcassette.
4 Set VOR to H, L or OFF (M-635VK/630V/535V/530V only).
If you set VOR to H or L, the unit automatically starts recording the sound and pauses when there is no sound (you can save tapes and batteries).
H: To record at meeting or in a quiet and/or spacious place.
L: To record for dictation or in a noisy place.
When the sound is not loud enough, set it to OFF, or the unit may not start recording.
5 Press ●.
◀ is pressed simultaneously and recording starts. While the tape runs, the REC lamp or REC/BATT lamp lights and flashes depending on the strength of the sound (M-635VK/630V/535V/530V only).
Recording level is fixed.

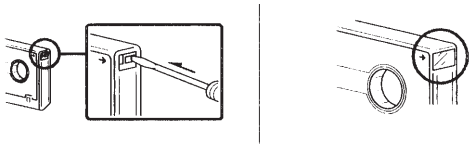
To	Press or slide
Stop recording	■⏏
Start recording during playback	● during playback (the unit becomes in the recording mode)
Review the portion just recorded	Push up ◀◀CUE/▶▶REVIEW toward ▶▶REVIEW during the recording. Release the button at the point to start playback.
Pause recording	Slide ▬PAUSE in the direction of the arrow. The REC/BATT (M-535V/530V), BATT (M-430) or REC lamp (M-635VK/630V) goes off.
Take out a cassette	■⏏

Note
Select the 2.4 cm tape speed for recording, if you play back the recorded tape with another unit. Otherwise, the sound quality may be changed.

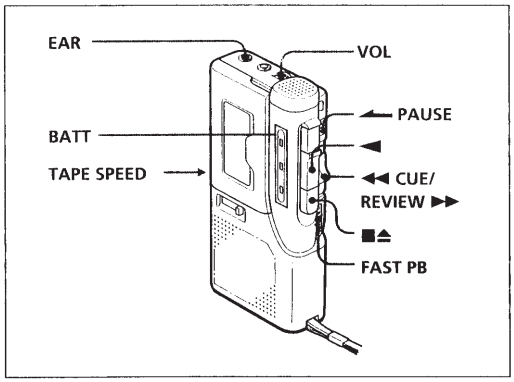
Notes on VOR (Voice Operated Recording) (M-635VK/630V/535V/530V only)
- The VOR system depends on the environmental conditions. If you cannot get the desired results, set VOR to OFF.
- When you use the system in a noisy place, the unit will stay in the recording mode. If the sound is too soft, on the contrary, the unif will not start recording. Set VOR to H (high) or L (low) depending on the conditions.

To monitor the sound
Connect an earphone (not supplied) to EAR jack. The monitor volume cannot be adjusted by VOL.

To prevent a cassette from being accidentally recorded over
Break out and remove the cassette tabs. To reuse the cassette for recording, cover the tab hole with adhesive tape.



Playing a Tape



1 Insert a cassette with the side to start playing facing the lid.
2 Select the tape speed to the same speed as that used for recording.
3 Press ◀.
4 Adjust the volume.

To	Press or slide
Stop playback/stop fast forward or rewind*	■⏏
Pause playback	Slide ▬PAUSE in the direction of the arrow. The REC/BATT (M-535V/530V) or BATT (M-430) lamp, or BATT lamps (M-635VK/630V) go off.
Fast forward	Slide ◀◀CUE/▶▶REVIEW toward ◀◀CUE during stop.
Rewind	Slide ◀◀CUE/▶▶REVIEW toward ▶▶REVIEW during stop.
Search forward during playback (CUE)	Keep ◀◀CUE/▶▶REVIEW pushed down during playback and release it at the point you want.
Search backward during playback (REVIEW)	Keep ◀◀CUE/▶▶REVIEW pushed up during playback and release it at the point you want.

* If you leave the unit after the tape has been wound or rewound, the batteries will be consumed rapidly. Be sure to depress ■⏏.

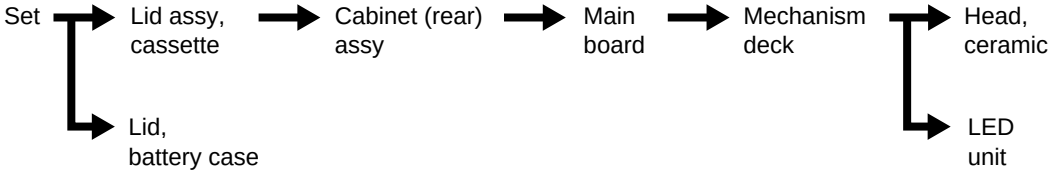
If you plug in headphones (not supplied) to the EAR jack, you will get monaural output from both left and right channels.

To increase the playback speed (M-635VK/630V only)
Slide the FAST PB switch in the direction of the arrow. The playback speed will be increased.
To return to the original speed, slide the FAST PB switch to the original position.

At the end of the tape
In the recording or playback mode, the tape stops at the end of the tape and the locked buttons will be released automatically (Automatic shut-off mechanism).
After fast forward or rewind, be sure to set ◀◀CUE/▶▶REVIEW back to the center.

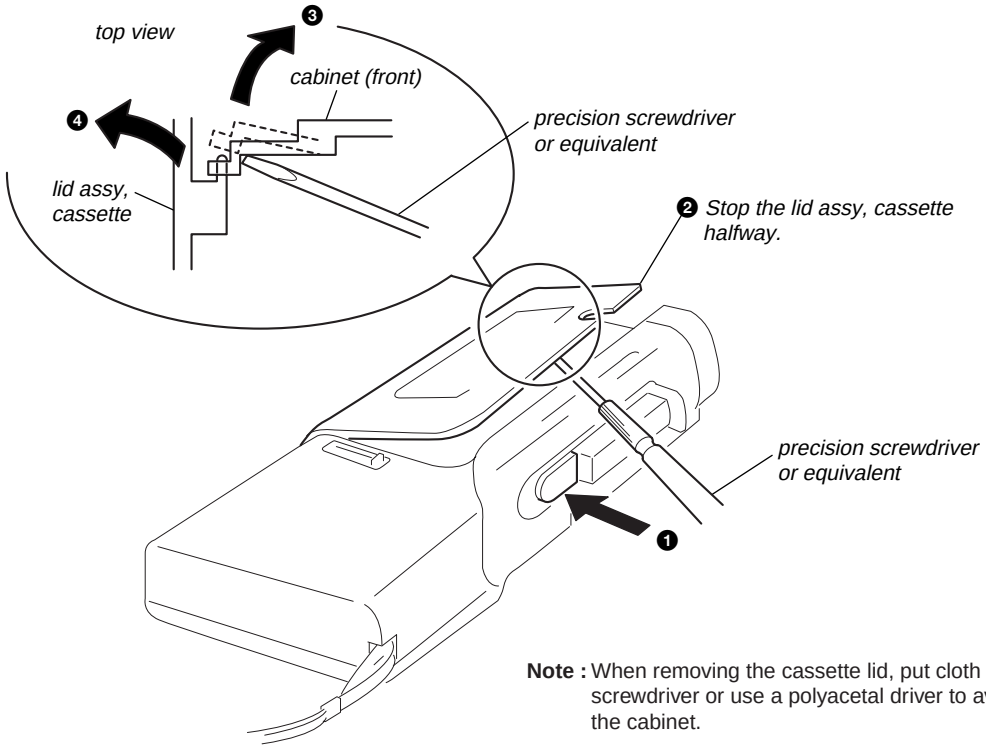
SECTION 2
DISASSEMBLY

• The equipment can be removed using the following procedure.

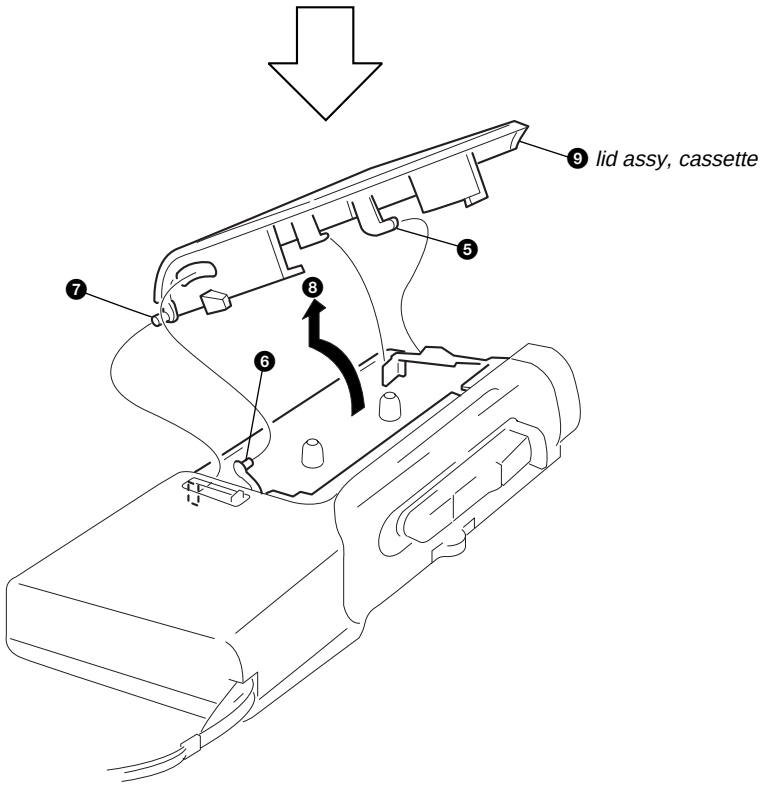


Note : Follow the disassembly procedure in the numerical order given.

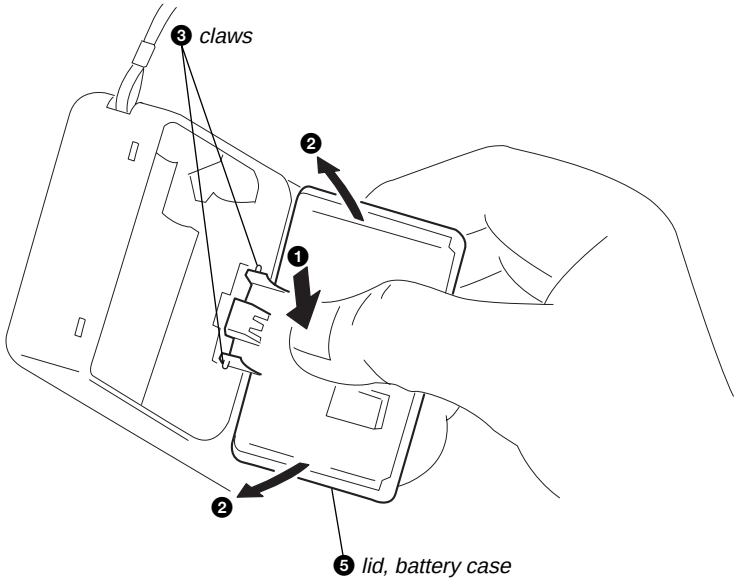
2-1. LID ASSY, CASSETTE



Note : When removing the cassette lid, put cloth on the end of a screwdriver or use a polyacetal driver to avoid damage to the cabinet.

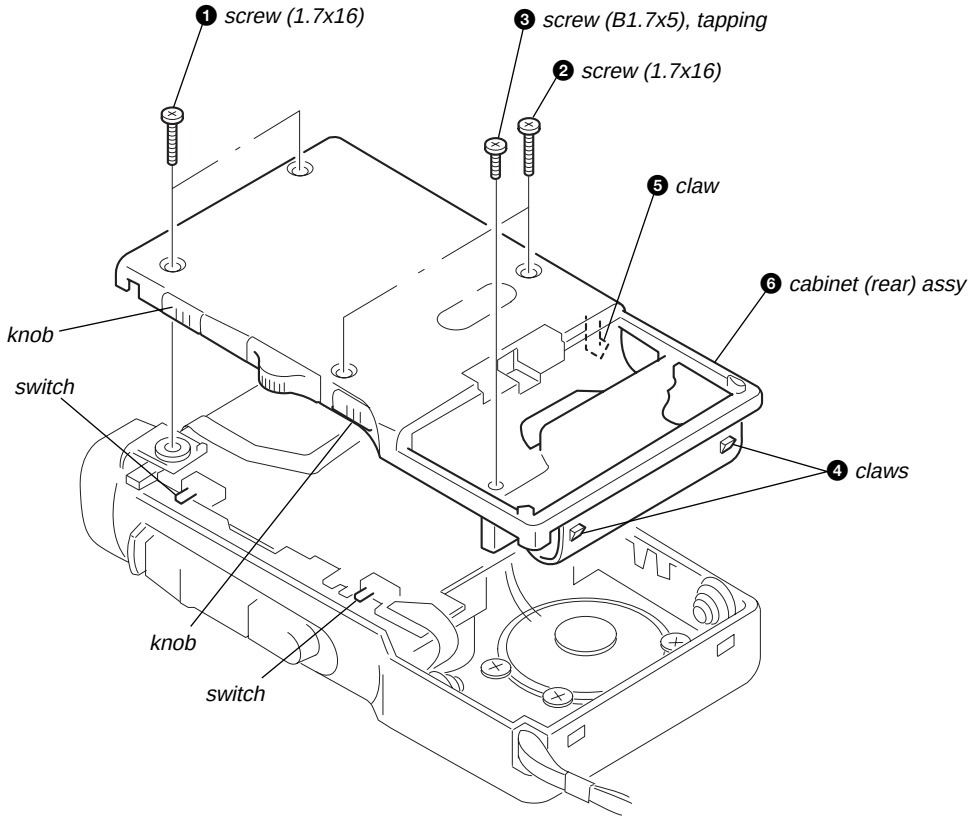


2-2. LID, BATTERY CASE

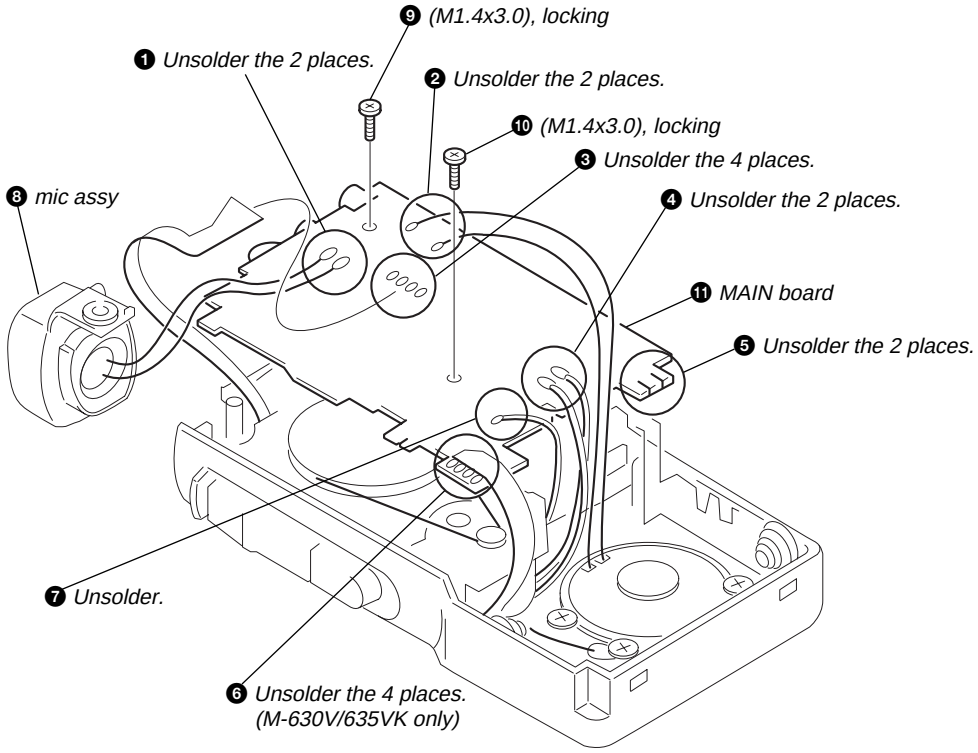


2-3. CABINET (REAR) ASSY

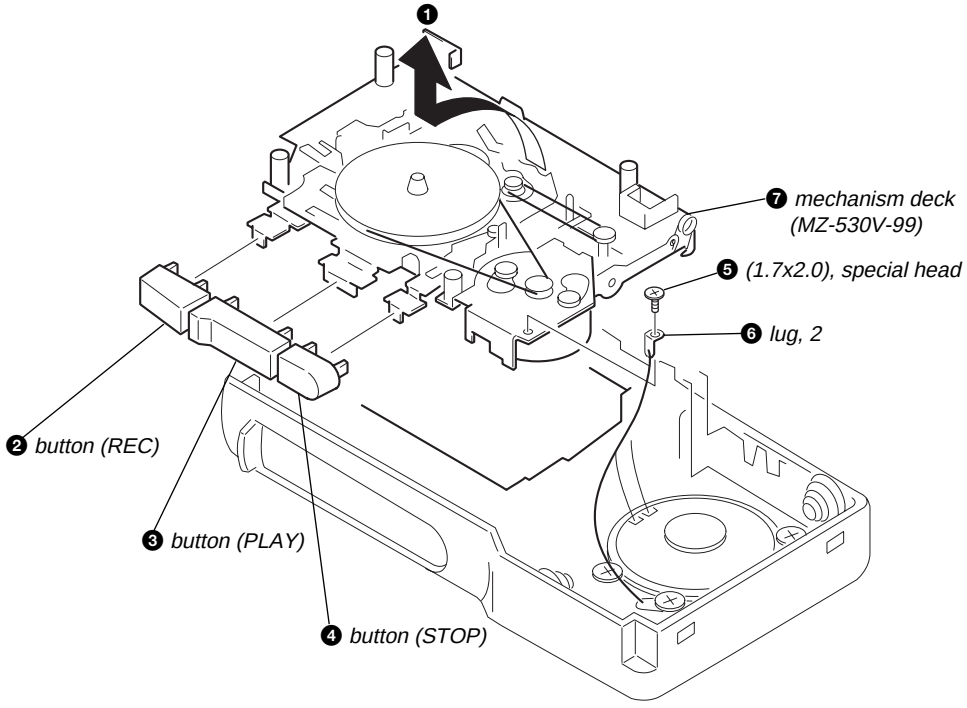
Note : When installing, fit the knobs and switches.



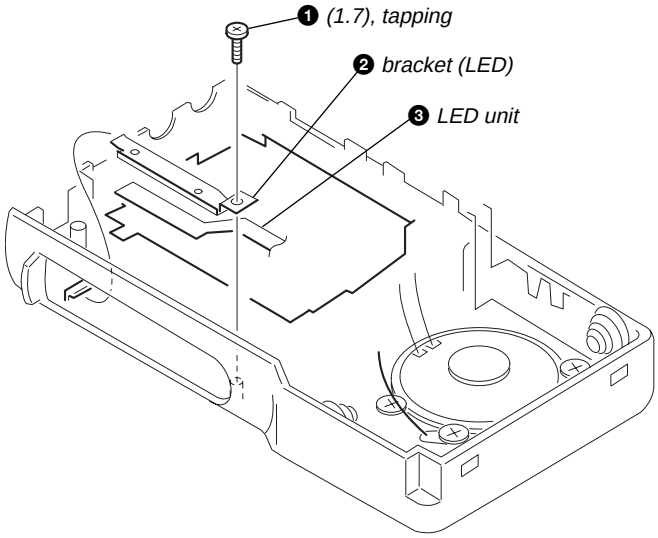
2-4. MAIN BOARD



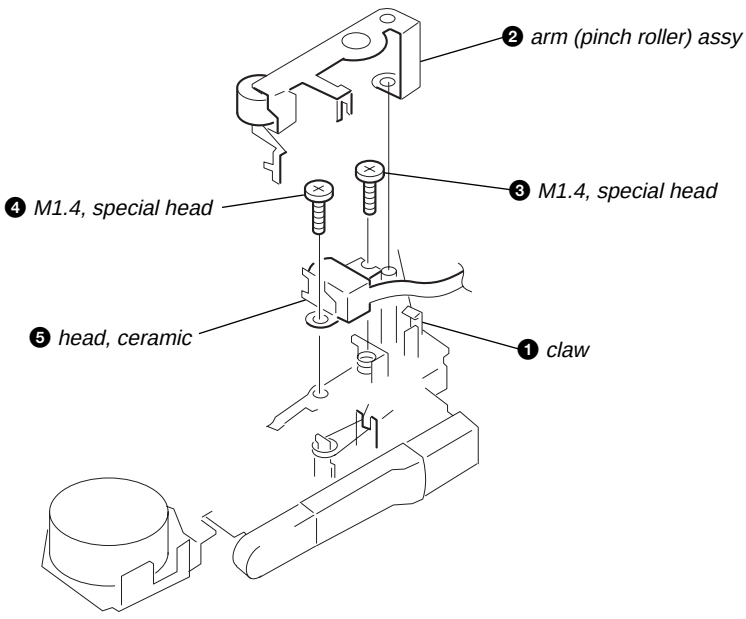
2-5. MACHANISM DECK



2-6. LED UNIT



2-7. HEAD, CERAMIC



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback/erase head pinch roller
   rubber belts capstan
2. Demagnetize the record/playback/erase head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
   Power supply voltage : 3 Vdc
   TAPE SPEED switch : 2.4cm

Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-103M	5 – 13 g • cm (0.07 – 0.180 oz • inch)
Fast Forward	CQ-201M	more than 30 g • cm (more than 0.42 oz • inch)
Rewind	CQ-201M	more than 30 g • cm (more than 0.42 oz • inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403M	more than 20 g (more than 0.28 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

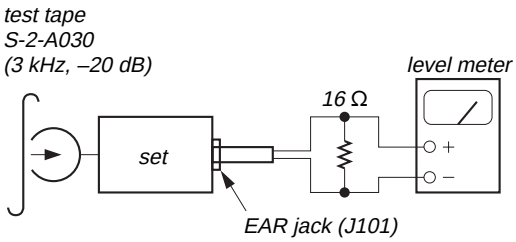
Test Tape

Type	Signal	Used for	Tape Speed (cm/s)
S-2-A030	3 kHz, – 20 dB	Head Azimuth Adjustment	2.4
WS-24	3 kHz, – 10 dB	Tape Speed Adjustment	2.4
WS-12			1.2

Record/Playback/Erase Head Azimuth Adjustment

Setting:
VOL control : mechanical mid
TAPE SPEED switch : 2.4cm/s
VOR switch : OFF

Procedure:
1. Mode : Playback

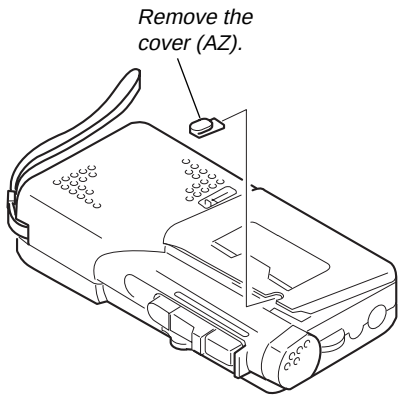


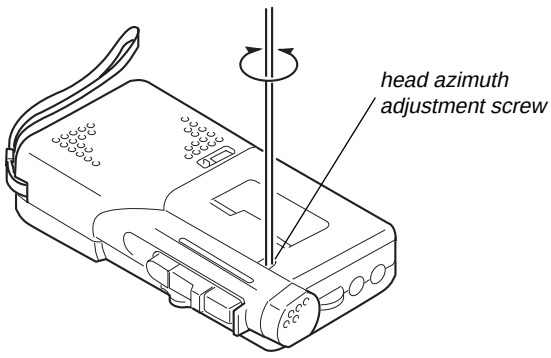
2. Turn the adjustment screw to obtain the maximum reading on level meter.

Note: Several peaks may appear, but the maximum.

Adjustment Location :

First remove the cover (AZ).





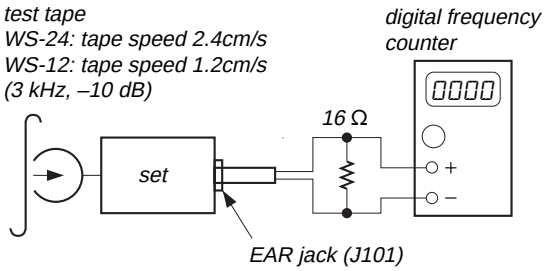
Tape Speed Adjustment

Setting:

VOL control : mechanical mid
VOR switch : OFF

Procedure:

• Reform 2.4 cm/s speed adjustment before 1.2 cm/s speed adjustment mode : playback



1. Tape Speed : 2.4 cm/s
   Playback WS-24 (tape center part) and adjust RV602 so that reading on the digital frequency counter becomes 3,000 Hz.

2. Tape Speed : 1.2 cm/s
   Playback WS-12 (tape center part) and adjust RV601 so that reading on the digital frequency counter becomes 3,000 Hz.

Specification Value:

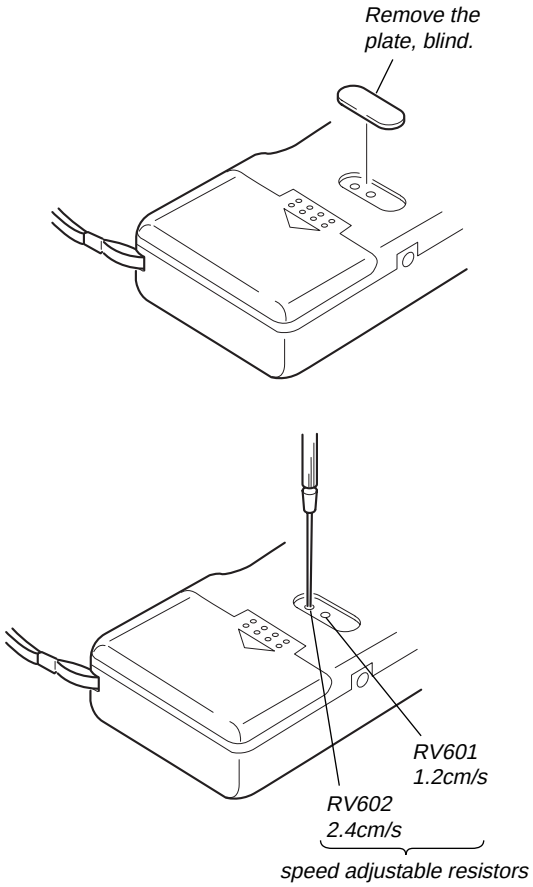
Tape Speed	Frequency counter
2.4 cm/s	2,880 to 3,120 Hz
1.2 cm/s	2,850 to 3,150 Hz

Frequency difference between the beginning and the end of the tape should be within ±0.5%.

2.4 cm/s (15 Hz)
1.2 cm/s (15 Hz)

Adjustment Location :

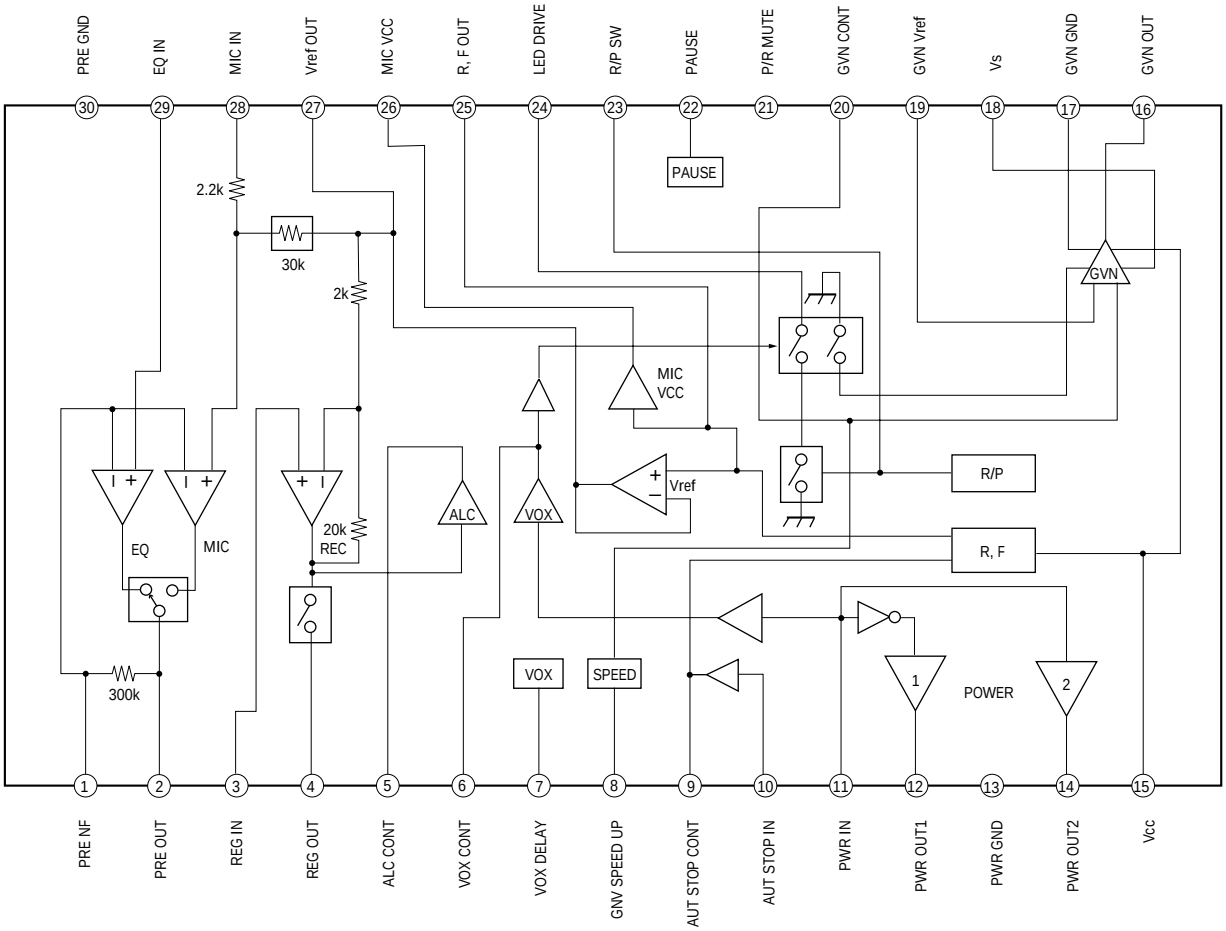
First remove the plate, blind.



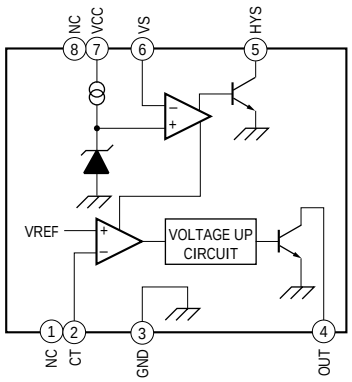
SECTION 5
DIAGRAMS

• IC Block Diagrams

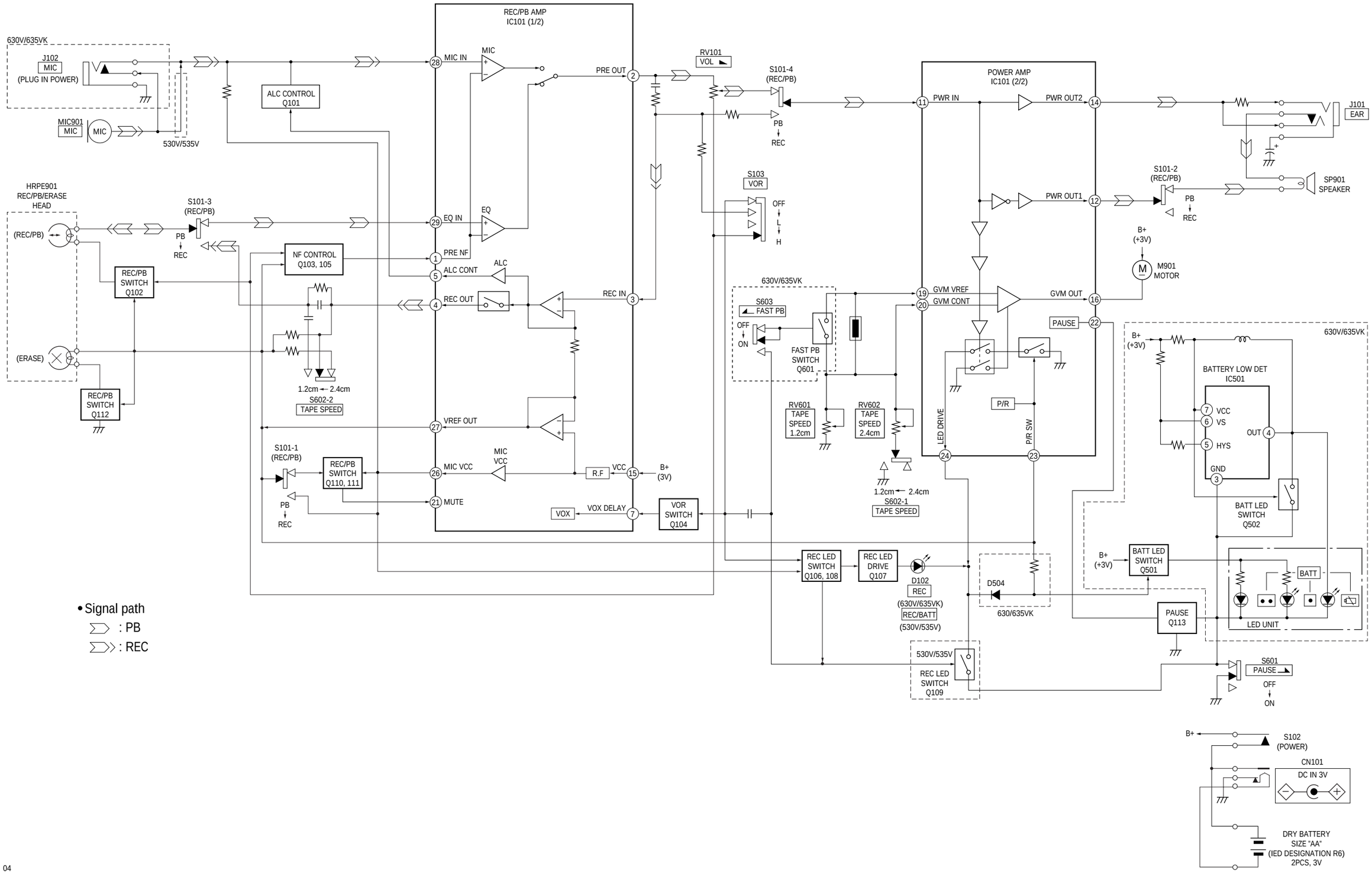
IC101 LA4168ML



IC501 MM1251BFBE (M-630V/635VK only)



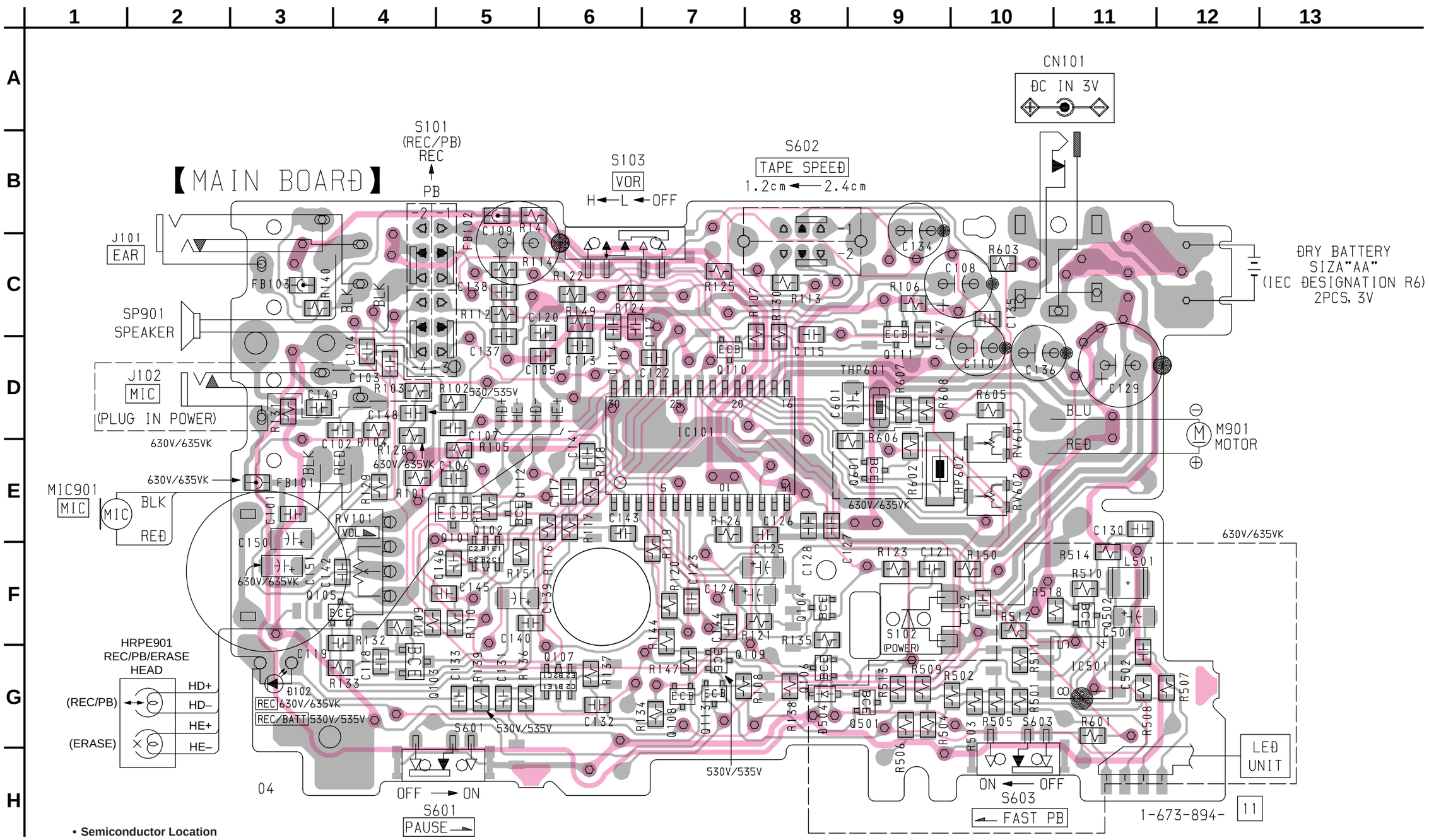
5-1. BLOCK DIAGRAM



• Signal path
: PB
: REC

04

5-2. PRINTED WIRING BOARD



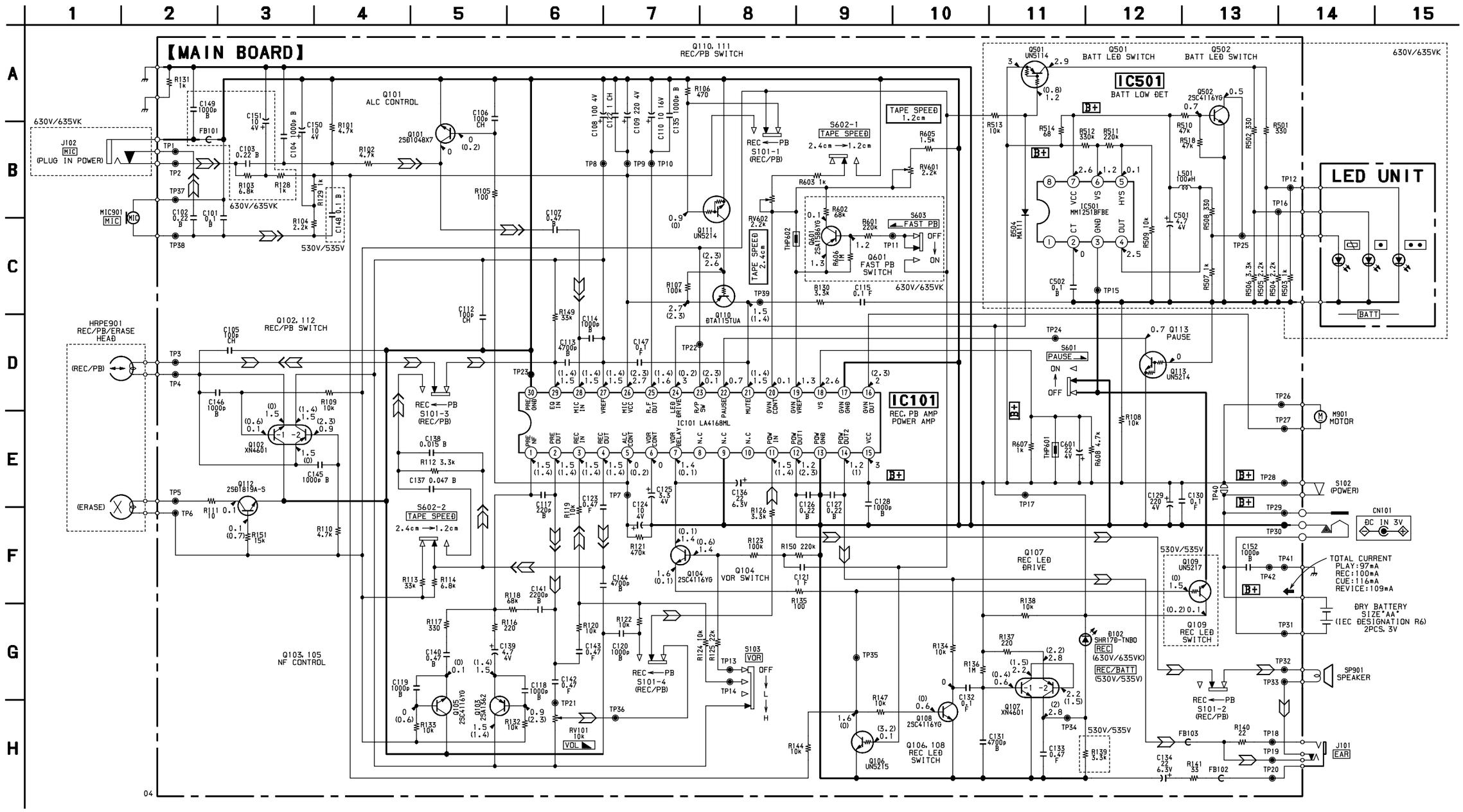
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D102	G-3	Q106	G-8
(D504)	G-8	Q107	G-5
		Q108	G-7
IC101	D-7	<Q109>	G-7
(IC501)	G-11	Q110	C-7
		Q111	C-9
Q101	E-4	Q112	E-5
Q102	E-5	Q113	G-7
Q103	G-4	(Q501)	G-8
Q104	F-8	(Q502)	F-11
Q105	F-3	(Q601)	E-8

( ) : 630V/635VK only
< > : 530V/535V only

Note:
- ——— : parts extracted from the conductor side.
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

5-3. SCHEMATIC DIAGRAM • Refer to page 10 for IC Block Diagrams.



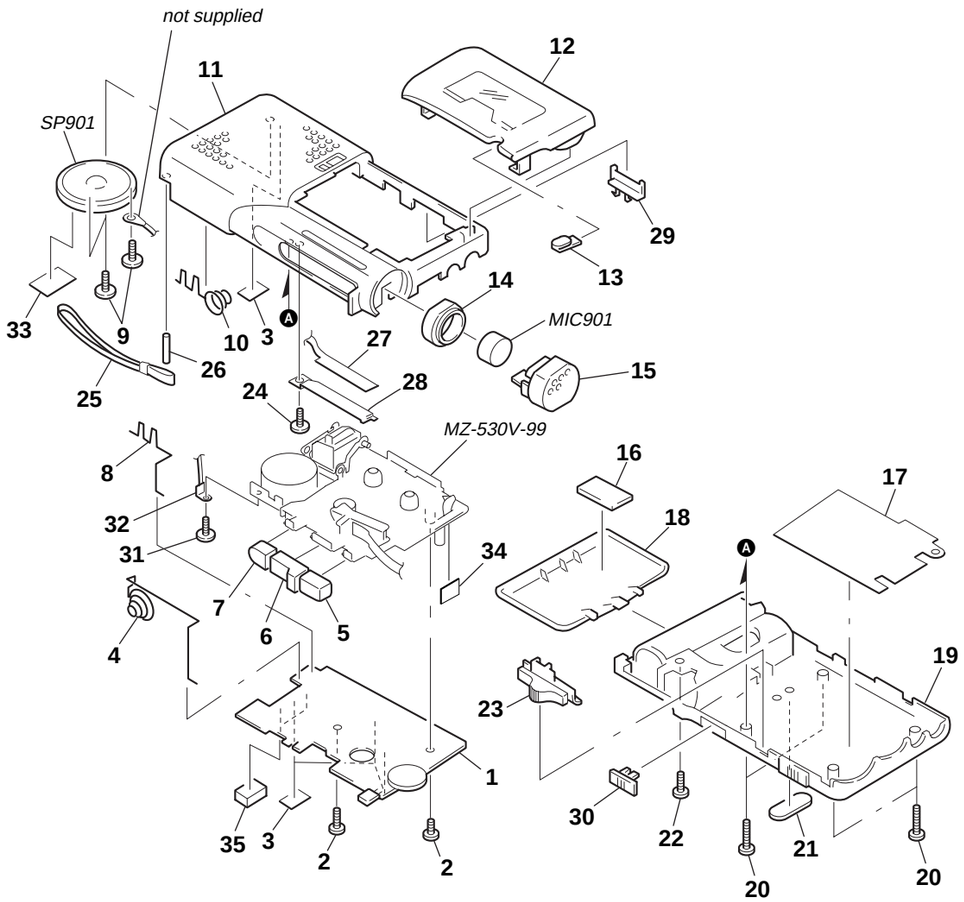
Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B + : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : PB
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PB
  : REC

SECTION 6
EXPLODED VIEWS

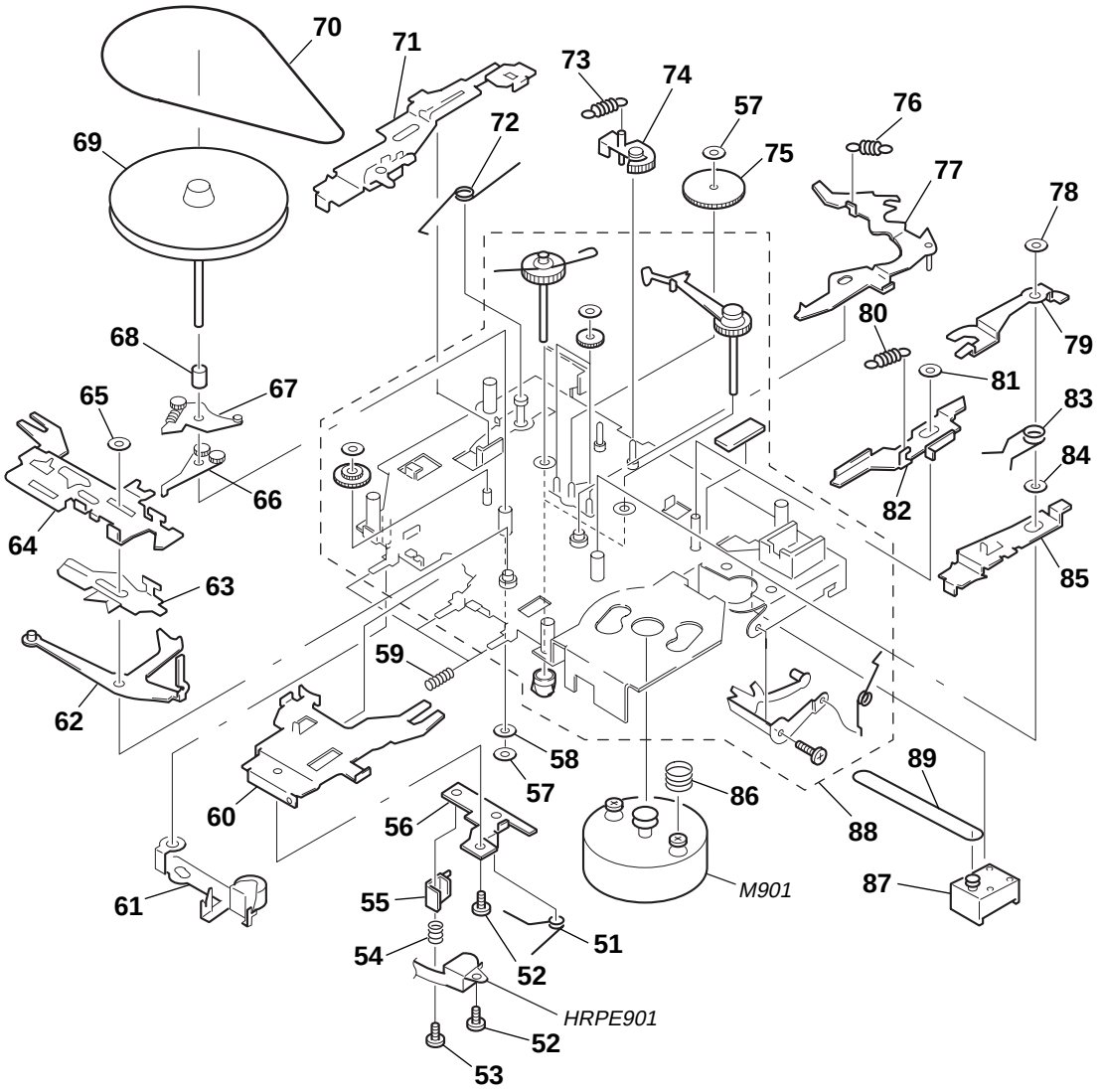
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model
  EE : East European model
  CH : Chinese model
  E : Indication of country of origin
  1E : No indication of country of origin

6-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	A-3021-217-A	MAIN BOARD, COMPLETE (630V/635VK)	
1	A-3021-219-A	MAIN BOARD, COMPLETE (530V/535V)	
2	3-704-197-31	SCREW (M1.4X3.0), LOCKING	
3	3-831-441-99	SPACER, KNOB	
4	3-034-687-01	TERMINAL (-), BATTERY	
5	3-031-376-11	BUTTON (REC) (BLACK) (530V/535V)	
5	3-031-376-21	BUTTON (REC) (SILVER) (630V/635VK)	
6	3-031-375-01	BUTTON (PLAY) (BLACK) (530V/535V)	
6	3-031-375-11	BUTTON (PLAY) (SILVER) (630V/635VK)	
7	3-031-374-01	BUTTON (STOP) (BLACK) (530V/535V)	
7	3-031-374-11	BUTTON (STOP) (SILVER) (630V/635VK)	
8	3-034-686-01	TERMINAL (+), BATTERY	
9	3-034-792-01	SCREW (2X2.5), TAPPING (B)	
10	3-010-503-01	SPRING (B), BATTERY COIL	
11	3-032-409-01	CABINET (FRONT) (SILVER) (530V:1E)	
11	3-032-409-11	CABINET (FRONT) (SILVER) (530V:EXCEPT 1E)	
11	3-032-409-61	CABINET (FRONT) (BLACK) (535V:1E)	
11	3-032-409-71	CABINET (FRONT) (BLACK) (535V:EXCEPT 1E)	
11	X-3377-234-1	CABINET (FRONT) SUB ASSY (BLACK) (630V:AEP)	
11	X-3377-236-1	CABINET (FRONT) SUB ASSY (SILVER) (630V:1E)	
11	X-3377-238-1	CABINET (FRONT) SUB ASSY (SILVER) (635VK)	
11	X-3377-252-1	CABINET (FRONT) SUB ASSY (SILVER) (630V:EXCEPT 1E)	
12	X-3377-233-1	LID ASSY, CASSETTE (BLACK) (630V:AEP)	
12	X-3377-239-1	LID ASSY, CASSETTE (BLACK) (535V)	
12	X-3377-251-1	LID ASSY, CASSETTE (SILVER) (630V/635VK)	
12	X-3377-253-1	LID ASSY, CASSETTE (SILVER) (530V)	
* 13	3-033-185-01	COVER (AZ) (BLACK) (535V/630V:AEP)	
* 13	3-033-185-11	COVER (AZ) (SILVER) (530V/630V/635VK)	
14	3-031-382-01	CUSHION (MIC)	
15	3-031-372-01	CASE, MICROPHONE	
* 16	3-914-930-01	CUSHION (BATTERY CASE LID)	
17	3-037-004-01	PLATE, SHIELD	
18	3-031-371-01	LID, BATTERY CASE (BLACK) (535V/630V:AEP)	
18	3-031-371-11	LID, BATTERY CASE (SILVER) (530V/630V/635VK)	
19	X-3377-318-1	CABINET (REAR) ASSY (SILVER) (530V)	
19	X-3377-321-1	CABINET (REAR) ASSY (SILVER) (630V/635VK)	
19	X-3377-322-1	CABINET (REAR) ASSY (BLACK) (630V:AEP)	
19	X-3377-323-1	CABINET (REAR) ASSY (BLACK) (535V)	
20	3-035-255-01	SCREW (1.7X16) (BLACK) (535V:1E/630V:AEP)	
20	3-035-255-11	SCREW (1.7X16) (SILVER) (530V/535V:EXCEPT 1E/630V/635VK)	
21	3-358-363-41	PLATE, BLIND (BLACK) (535V/630V:AEP)	
21	3-358-363-61	PLATE, BLIND (SILVER) (530V/630V/635V)	
22	3-318-203-71	SCREW (B1.7X5), TAPPING (BLACK) (535V/630V:AEP)	
22	3-318-203-72	SCREW (B1.7X5), TAPPING (SILVER) (530V/630V/635VK)	
23	3-031-381-01	KNOB (FR) (BLACK) (535V/630V:AEP)	
23	3-031-381-11	KNOB (FR) (SILVER) (530V/630V/635VK)	
24	3-318-382-31	SCREW (1.7), TAPPING (630V/635VK)	
25	3-328-319-01	STRAP, HAND	
26	3-669-481-07	PIN (DIA.1X10), PARALLEL	
27	1-468-399-11	LED UNIT (630V/635VK)	
28	3-031-395-01	BRACKET (LED) (630V/635VK)	
29	3-033-358-01	KNOB (VOR) (LIGHT GRAY) (530V/630V/635VK)	
29	3-033-358-11	KNOB (VOR) (DARK GRAY) (535V/630V:AEP)	
30	3-033-357-01	KNOB (F-PB) (LIGHT GRAY) (630V/635VK)	
31	3-891-132-00	SCREW (M1.7X2.0), SPECIAL HEAD	
32	7-623-505-01	LUG, 2	
33	3-037-193-01	CUSHION (SP)	
34	3-036-882-01	SPACER (JACK)	
35	3-037-146-01	CUSHION (A)	
MIC901	1-542-386-11	MICROPHONE, ELECTRET CONDENSER (MIC)	
SP901	1-505-838-11	SPEAKER (3.6cm)	

6-2. MECHANISM DECK SECTION (MZ-530V-99)



Ref. No.	Part No.	Description	Remark
51	3-028-965-01	SPRING (PINCH ARM), TORSION	
52	3-703-816-31	SCREW (M1.4), SPECIAL HEAD	
53	3-703-816-73	SCREW (M1.4), SPECIAL HEAD	
54	3-028-960-01	SPRING (AZIMUTH), COMPRESSION	
55	3-028-909-01	GUIDE (N), TAPE	
* 56	3-029-640-01	LEVER (PLAY.OW)	
57	3-331-007-21	WASHER	
58	3-350-989-01	WASHER	
59	3-028-961-01	SPRING (BUTTON), COMPRESSION	
60	3-028-924-01	LEVER (PLAY)	
61	X-3376-235-1	ARM (PINCH ROLLER) ASSY	
62	3-028-929-01	LEVER (SW)	
63	3-028-940-01	LEVER (SRS)	
64	3-028-938-01	LEVER (SLIDE)	
65	3-578-224-00	WASHER	
66	X-3376-227-1	LEVER (F/R) ASSY	
67	X-3376-228-1	LEVER (TU) ASSY	
68	3-029-634-01	BEARING	
69	X-3376-231-1	FLYWHEEL ASSY	
70	3-377-420-11	BELT (FLYWHEEL)	
71	X-3376-224-1	LEVER (REC) ASSY	

Ref. No.	Part No.	Description	Remark
72	3-029-641-01	SPRING, TORSION	
73	3-028-957-01	SPRING (CAM GEAR), TENSION	
74	3-028-966-01	GEAR (S-OFF-OW), CAM	
75	X-3376-230-1	LIMITER ASSY	
76	3-028-955-01	SPRING (LOCK), TENSION	
77	X-3377-535-1	LEVER (LOCK) ASSY	
78	4-992-239-01	WASHER (A)	
* 79	3-028-967-01	LEVER (PAUSE RELEASE)	
80	3-028-954-01	SPRING (SW LEVER), TENSION	
81	3-321-483-11	RING, RETAINING	
82	3-028-928-01	LEVER (EJECT)	
83	3-028-964-01	SPRING (SLIDER), TORSION	
84	4-926-562-01	WASHER, STOPPER	
85	3-028-927-01	LEVER (STOP)	
86	3-028-917-01	SPRING (GROUND), COMPRESSION	
87	1-548-579-41	COUNTER, TAPE (SMALL TYPE)	
88	X-3376-223-1	CHASSIS (COMP) ASSY	
89	3-343-948-01	BELT (COUNTER,TAPE)	
HRPE901	1-500-593-11	HEAD, CERAMIC (REC/PB/ERASE)	
M901	1-698-533-11	MOTOR, DC (CAPSTAN/REEL) (including PULLEY)	

MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH
  When indicating parts by reference number, please include the board.
- Abbreviation
  CND : Canadian model
  EE : East European model
  CH : Chinese model
  E : Indication of country of origin
  1E : No indication of country of origin

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-3021-217-A	MAIN BOARD, COMPLETE (630V/635VK)			
	A-3021-219-A	MAIN BOARD, COMPLETE (530V/535V)			
		**********			
		< CAPACITOR >			
C101	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C103	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (630V/635VK)
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C105	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C106	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C107	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C108	1-124-433-00	ELECT	100uF	20%	4V
C109	1-124-434-00	ELECT	220uF	20%	4V
C110	1-104-396-11	ELECT	10uF	20%	16V
C112	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C113	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C114	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C115	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C117	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C120	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C121	1-164-346-11	CERAMIC CHIP	1uF		16V
C122	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C123	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C124	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C125	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C126	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C127	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C128	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C129	1-104-402-11	ELECT	220uF	20%	4V
C130	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C131	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C132	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C133	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C134	1-126-153-11	ELECT	22uF	20%	6.3V
C135	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C136	1-126-153-11	ELECT	22uF	20%	6.3V
C137	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C138	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C139	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C140	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C141	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C142	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C143	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C144	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C145	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C146	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C147	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C148	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V (530V/535V)
C149	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (630V/635VK)
C150	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C151	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C152	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C501	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V (630V/635VK)
C502	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V (630V/635VK)
C601	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
		< JACK >			
CN101	1-580-372-41	JACK, DC (POLARITY UNIFIED TYPE)			(DC IN 3V)
		< DIODE >			
D102	8-719-062-18	LED SHR17D-TNBO (REC/BATT) (530V/535V)			
D102	8-719-062-18	LED SHR17D-TNBO (REC) (630V/635VK)			
D504	8-719-404-50	DIODE MA111-TX (630V/635VK)			
		< FERRITE BEAD >			
FB101	1-414-235-22	INDUCTOR, FERRITE BEAD (630V/635VK)			
FB102	1-414-235-22	INDUCTOR, FERRITE BEAD			
FB103	1-414-235-22	INDUCTOR, FERRITE BEAD			
		< IC >			
IC101	8-759-492-49	IC LA4168ML-TE-L			
IC501	8-759-399-49	IC MM1251BFBE (630V/635VK)			
		< JACK >			
J101	1-785-791-11	JACK (EAR)			
J102	1-785-790-11	JACK (MIC (PLUG IN POWER)) (630V/635VK)			
		< COIL >			
L501	1-412-032-11	INDUCTOR CHIP 100uH (630V/635VK)			

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q101	8-729-800-37	TRANSISTOR	2SD1048-X7		
Q102	8-729-402-84	TRANSISTOR	XN4601		
Q103	8-729-230-72	TRANSISTOR	2SA1362YG		
Q104	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q105	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q106	8-729-420-50	TRANSISTOR	UN5215		
Q107	8-729-402-84	TRANSISTOR	XN4601		
Q108	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q109	8-729-422-48	TRANSISTOR	UN5217 (530V/535V)		
Q110	8-729-028-78	TRANSISTOR	DTA115TUA-T106		
Q111	8-729-402-93	TRANSISTOR	UN5214-TX		
Q112	8-729-402-33	TRANSISTOR	2SD1819A-S		
Q113	8-729-402-93	TRANSISTOR	UN5214-TX		
Q501	8-729-402-96	TRANSISTOR	UN5114 (630V/635VK)		
Q502	8-729-230-63	TRANSISTOR	2SC4116-YG (630V/635VK)		
Q601	8-729-230-60	TRANSISTOR	2SA1586-YG (630V/635VK)		
		< RESISTOR >			
R101	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R102	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R103	1-216-069-00	METAL CHIP	6.8K	5%	1/10W (630V/635VK)
R104	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R105	1-216-025-00	RES,CHIP	100	5%	1/10W
R106	1-216-041-11	METAL CHIP	470	5%	1/10W
R107	1-216-097-00	RES,CHIP	100K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-073-00	METAL CHIP	10K	5%	1/10W
R110	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R111	1-216-001-00	METAL CHIP	10	5%	1/10W
R112	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R113	1-216-085-00	METAL CHIP	33K	5%	1/10W
R114	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R116	1-216-033-00	METAL CHIP	220	5%	1/10W
R117	1-216-037-00	METAL CHIP	330	5%	1/10W
R118	1-216-093-00	RES,CHIP	68K	5%	1/10W
R119	1-216-073-00	METAL CHIP	10K	5%	1/10W
R120	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-113-00	METAL CHIP	470K	5%	1/10W
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W
R123	1-216-097-00	RES,CHIP	100K	5%	1/10W
R124	1-216-073-00	METAL CHIP	10K	5%	1/10W
R125	1-216-081-00	METAL CHIP	22K	5%	1/10W
R126	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R128	1-216-049-11	RES,CHIP	1K	5%	1/10W (630V/635VK)
R129	1-216-049-11	RES,CHIP	1K	5%	1/10W
R130	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R131	1-216-049-11	RES,CHIP	1K	5%	1/10W
R132	1-216-073-00	METAL CHIP	10K	5%	1/10W
R133	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R134	1-216-073-00	METAL CHIP	10K	5%	1/10W
R135	1-216-025-00	RES,CHIP	100	5%	1/10W
R136	1-216-121-00	RES,CHIP	1M	5%	1/10W
R137	1-216-033-00	METAL CHIP	220	5%	1/10W
R138	1-216-073-00	METAL CHIP	10K	5%	1/10W
R139	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (530V/535V)
R140	1-216-009-00	RES,CHIP	22	5%	1/10W
R141	1-216-013-00	METAL CHIP	33	5%	1/10W
R144	1-216-073-00	METAL CHIP	10K	5%	1/10W
R147	1-216-073-00	METAL CHIP	10K	5%	1/10W
R149	1-216-085-00	METAL CHIP	33K	5%	1/10W
R150	1-216-105-00	RES,CHIP	220K	5%	1/10W
R151	1-216-077-00	METAL CHIP	15K	5%	1/10W
R501	1-216-037-00	METAL CHIP	330	5%	1/10W (630V/635VK)
R502	1-216-037-00	METAL CHIP	330	5%	1/10W (630V/635VK)
R503	1-216-049-11	RES,CHIP	1K	5%	1/10W (630V/635VK)
R504	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (630V/635VK)
R505	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (630V/635VK)
R506	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (630V/635VK)
R507	1-216-049-11	RES,CHIP	1K	5%	1/10W (630V/635VK)
R508	1-216-037-00	METAL CHIP	330	5%	1/10W (630V/635VK)
R509	1-216-073-00	METAL CHIP	10K	5%	1/10W (630V/635VK)
R510	1-216-089-00	RES,CHIP	47K	5%	1/10W (630V/635VK)
R511	1-216-105-00	RES,CHIP	220K	5%	1/10W (630V/635VK)
R512	1-216-109-00	METAL CHIP	330K	5%	1/10W (630V/635VK)
R513	1-216-073-00	METAL CHIP	10K	5%	1/10W (630V/635VK)
R514	1-216-021-00	METAL CHIP	68	5%	1/10W (630V/635VK)
R518	1-216-089-00	RES,CHIP	47K	5%	1/10W (630V/635VK)
R601	1-216-105-00	RES,CHIP	220K	5%	1/10W (630V/635VK)
R602	1-216-093-00	RES,CHIP	68K	5%	1/10W (630V/635VK)
R603	1-216-049-11	RES,CHIP	1K	5%	1/10W
R605	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R606	1-216-121-00	RES,CHIP	1M	5%	1/10W (630V/635VK)
R607	1-216-049-11	RES,CHIP	1K	5%	1/10W
R608	1-216-065-00	METAL CHIP	4.7K	5%	1/10W

MAIN

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV101	1-237-731-21	RES, VAR, CARBON 10K (VOL)	
RV601	1-223-584-11	RES, ADJ, CARBON 2.2K	
RV602	1-223-584-11	RES, ADJ, CARBON 2.2K	
		< SWITCH >	
S101	1-572-964-11	SWITCH, SLIDE (REC/PB)	
S102	1-572-688-11	SWITCH, PUSH (1 KEY) (POWER)	
S103	1-692-605-31	SWITCH, SLIDE (VOR)	
S601	1-572-922-11	SWITCH, SLIDE (PAUSE)	
S602	1-692-298-11	SWITCH, SLIDE (TAPE SPEED)	
S603	1-572-922-11	SWITCH, SLIDE (FAST PB) (630V/635VK)	
		< THERMISTOR (POSITIVE) >	
THP601	1-810-552-11	THERMISTOR, POSITIVE	
THP602	1-803-117-11	THERMISTOR, POSITIVE	
**********			
		MISCELLANEOUS	
		**********	
27	1-468-399-11	LED UNIT (630V/635VK)	
87	1-548-579-41	COUNTER, TAPE (SMALL TYPE)	
HRPE901	1-500-593-11	HEAD, CERAMIC (REC/PB/ERASE)	
M901	1-698-533-11	MOTOR, DC (CAPSTAN/REEL) (including PULLEY)	
MIC901	1-542-386-11	MICROPHONE, ELECTRET CONDENSER (MIC)	
SP901	1-505-838-11	SPEAKER (3.6cm)	
**********			

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-528-405-31	ADAPTOR, BATTERY CHARGE (BCA-35E) (635VK)	
⚠	1-693-073-21	ADAPTOR, AC (AC-E351) (630VK)	
	3-035-588-01	POUCH, CARRYING (630V:AEP,EE)	
	3-865-285-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH) (530V:US,CND/535V:EXCEPT E,1E)	
	3-865-285-61	MANUAL, INSTRUCTION (SPANISH,ITALIAN) (535V:AEP)	
	3-865-285-71	MANUAL, INSTRUCTION (ENGLISH) (630V:US,CND/635VK)	
	3-865-285-81	MANUAL, INSTRUCTION (FRENCH) (530V:AEP/630V:CND,AEP/635VK:CND)	
	3-865-285-91	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,ITALIAN) (530V:AEP,E/535V:E/630V:AEP,E)	
	3-866-171-11	MANUAL, INSTRUCTION (GERMAN,DUTCH, SWEDISH,FINNISH) (530V:AEP/630V:AEP)	
	3-866-171-21	MANUAL, INSTRUCTION (ENGLISH, SIMPLIFIED CHINESE,HUNGARIAN, RUSSIAN) (EE,CH)	
	3-866-171-31	MANUAL, INSTRUCTION (TRADITIONAL CHINESE,KOREAN, POLISH,CZECH) (EE)	
	3-866-171-41	MANUAL, INSTRUCTION (ENGLISH, TRADITIONAL CHINESE) (1E)	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

99B0484-1
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Published by Quality Engineering Dept. (Shinagawa)

M-530V/535V/630V/635VK

SERVICE MANUAL

Ver 1.1 1999. 05

Photo : M-530V

US Model
Canadian Model
M-530V/535V/630V/635VK
AEP Model
E Model
Chinese Model
M-530V/535V/630V
Tourist Model
M-530V

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MZ-530V-99

SPECIFICATIONS

Tape
MICROCASSETTE™ (normal position type)
Recording system
2-track 1-channel monaural
Speaker
Approx. 3.6 cm (1 7/16 in.) dia.
Tape speed
2.4 cm/s (15/16 ips), 1.2 cm/s (15/32 ips)
Frequency range
250 - 4,000 Hz (with TAPE SPEED switch at 2.4 cm/s)
Input (M-635VK/630V only)
Microphone input jack (minijack/PLUG IN POWER)
sensitivity 0.24 mV for 3 kilohms or lower impedance microphone
Output
Earphone jack (minijack) for 8 - 300 ohms earphone
Power output (at 10% harmonic distortion)
250 mW
Power requirements
3 V DC batteries size AA (R6) × 2/External DC 3 V power sources
Dimensions (w/h/d)
Approx. 62.2 × 121.5 × 24.3 mm (2 1/2 × 4 7/8 × 31/32 in.) incl. projecting parts and controls
Mass
Approx. 125 g (4.5 oz.)

Supplied accessories
AC power adaptor AC-E351 (1) (M-635VK only)
Battery charge adaptor BCA-35E (1) (M-635VK only)
Rechargeable batteries NC-AA, 1.2 V, 600 mAh, Ni-Cd (2) (M-635VK only)
Microcassette tape MC-30 (1) (M-630V/535V/530V for Europe only)
Batteries R6P (SR) (2) (M-530V for Tourist and M-630V for Europe only)
Carrying case (1) (M-530V for Tourist and M-630V for Europe only)

Design and specifications are subject to change without notice.

MICROCASSETTE™-CORDER

MICROFILM

SONY®

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Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

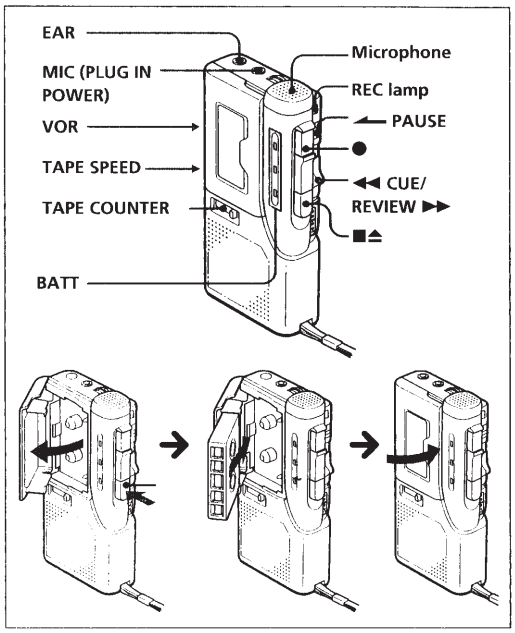
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

This section is extracted from instruction manual.

Recording

Make sure that nothing is connected to MIC (M-635VK/630V only).



1 Press the reset button of the TAPE COUNTER (M-635VK/630V/535V/530V only).
2 Press ■⏏ and insert a standard microcassette with the side to start recording facing the lid.
3 Select the desired tape speed.
2.4 cm for optimum sound (recommended for normal use): A 30-minute recording can be made using both sides of the MC-30 microcassette.
1.2 cm for longer recording time: A 60-minute recording can be made using both sides of the MC-30 microcassette.
4 Set VOR to H, L or OFF (M-635VK/630V/535V/530V only).
If you set VOR to H or L, the unit automatically starts recording the sound and pauses when there is no sound (you can save tapes and batteries).
H: To record at meeting or in a quiet and/or spacious place.
L: To record for dictation or in a noisy place.
When the sound is not loud enough, set it to OFF, or the unit may not start recording.
5 Press ●.
◀ is pressed simultaneously and recording starts. While the tape runs, the REC lamp or REC/BATT lamp lights and flashes depending on the strength of the sound (M-635VK/630V/535V/530V only).
Recording level is fixed.

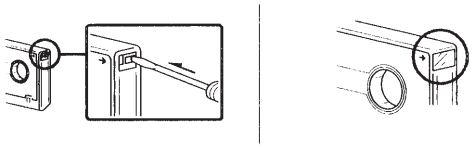
To	Press or slide
Stop recording	■⏏
Start recording during playback	● during playback (the unit becomes in the recording mode)
Review the portion just recorded	Push up ◀◀CUE/▶▶REVIEW toward ▶▶REVIEW during the recording. Release the button at the point to start playback.
Pause recording	Slide ▬PAUSE in the direction of the arrow. The REC/BATT (M-535V/530V), BATT (M-430) or REC lamp (M-635VK/630V) goes off.
Take out a cassette	■⏏

Note
Select the 2.4 cm tape speed for recording, if you play back the recorded tape with another unit. Otherwise, the sound quality may be changed.

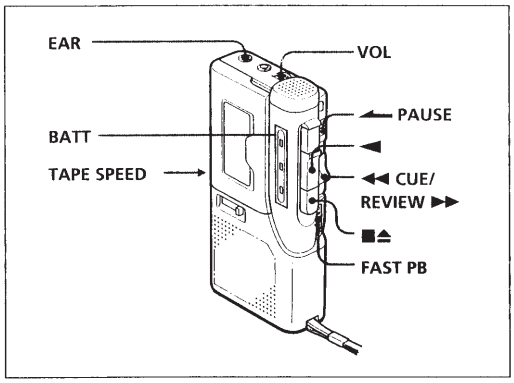
Notes on VOR (Voice Operated Recording) (M-635VK/630V/535V/530V only)
- The VOR system depends on the environmental conditions. If you cannot get the desired results, set VOR to OFF.
- When you use the system in a noisy place, the unit will stay in the recording mode. If the sound is too soft, on the contrary, the unif will not start recording. Set VOR to H (high) or L (low) depending on the conditions.

To monitor the sound
Connect an earphone (not supplied) to EAR jack. The monitor volume cannot be adjusted by VOL.

To prevent a cassette from being accidentally recorded over
Break out and remove the cassette tabs. To reuse the cassette for recording, cover the tab hole with adhesive tape.



Playing a Tape



1 Insert a cassette with the side to start playing facing the lid.
2 Select the tape speed to the same speed as that used for recording.
3 Press ◀.
4 Adjust the volume.

To	Press or slide
Stop playback/stop fast forward or rewind*	■⏏
Pause playback	Slide ▬PAUSE in the direction of the arrow. The REC/BATT (M-535V/530V) or BATT (M-430) lamp, or BATT lamps (M-635VK/630V) go off.
Fast forward	Slide ◀◀CUE/▶▶REVIEW toward ◀◀CUE during stop.
Rewind	Slide ◀◀CUE/▶▶REVIEW toward ▶▶REVIEW during stop.
Search forward during playback (CUE)	Keep ◀◀CUE/▶▶REVIEW pushed down during playback and release it at the point you want.
Search backward during playback (REVIEW)	Keep ◀◀CUE/▶▶REVIEW pushed up during playback and release it at the point you want.

* If you leave the unit after the tape has been wound or rewound, the batteries will be consumed rapidly. Be sure to depress ■⏏.

If you plug in headphones (not supplied) to the EAR jack, you will get monaural output from both left and right channels.

To increase the playback speed (M-635VK/630V only)
Slide the FAST PB switch in the direction of the arrow. The playback speed will be increased.
To return to the original speed, slide the FAST PB switch to the original position.

At the end of the tape
In the recording or playback mode, the tape stops at the end of the tape and the locked buttons will be released automatically (Automatic shut-off mechanism).
After fast forward or rewind, be sure to set ◀◀CUE/▶▶REVIEW back to the center.

SECTION 2
DISASSEMBLY

• The equipment can be removed using the following procedure.

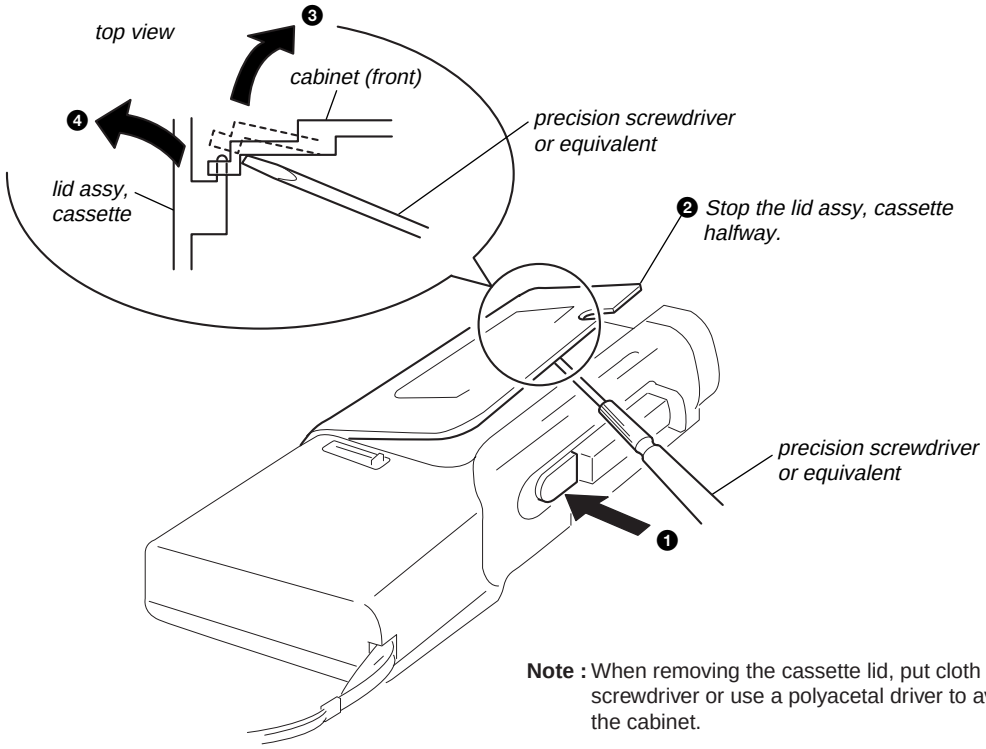
Set → Lid assy, cassette → Cabinet (rear) assy → Main board → Mechanism deck → Head, ceramic (HRPE901)

Set → Lid, battery case

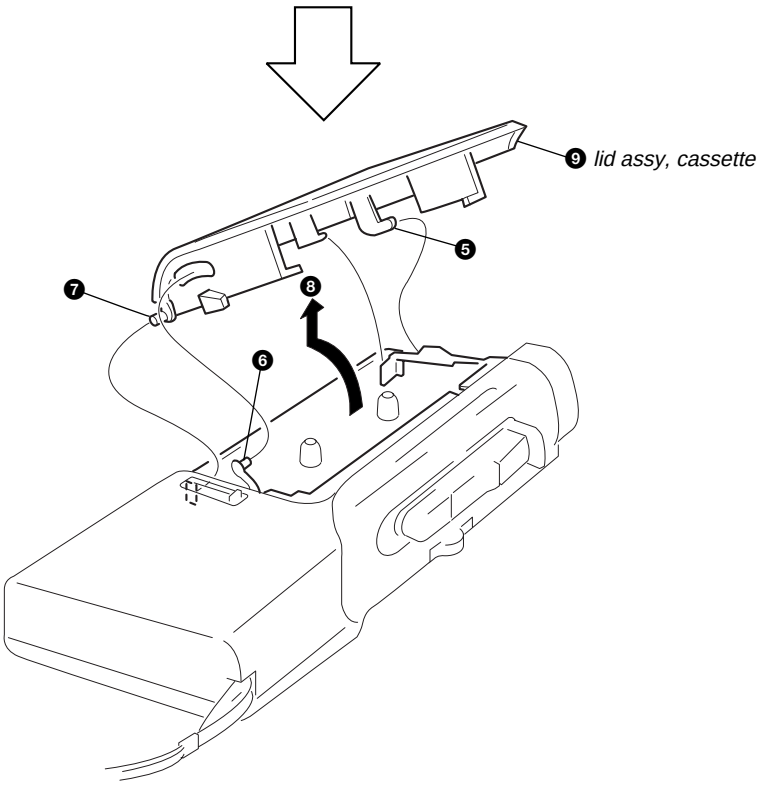
Mechanism deck → LED unit

Note : Follow the disassembly procedure in the numerical order given.

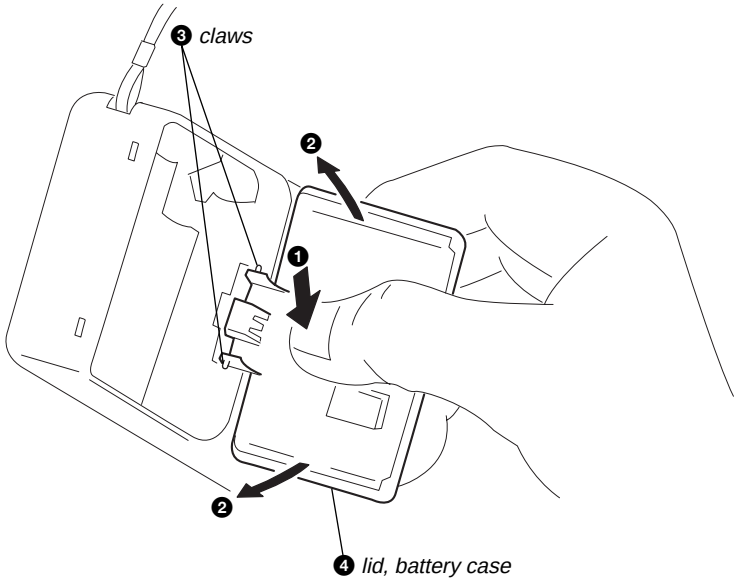
2-1. LID ASSY, CASSETTE



Note : When removing the cassette lid, put cloth on the end of a screwdriver or use a polyacetal driver to avoid damage to the cabinet.

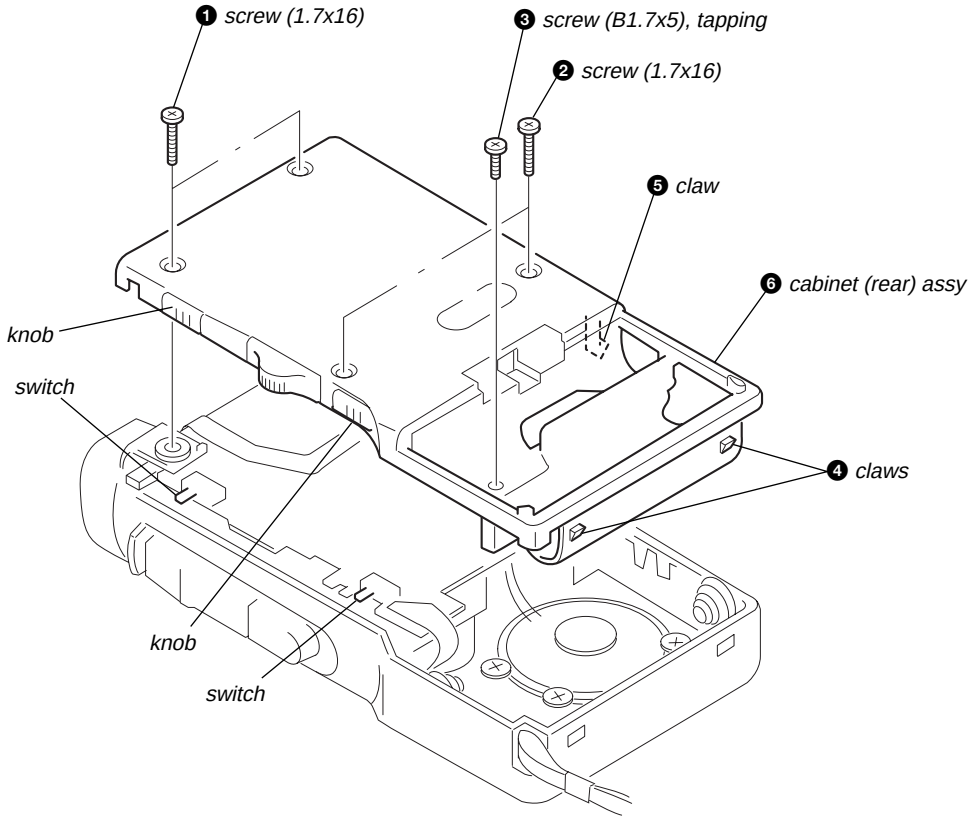


2-2. LID, BATTERY CASE

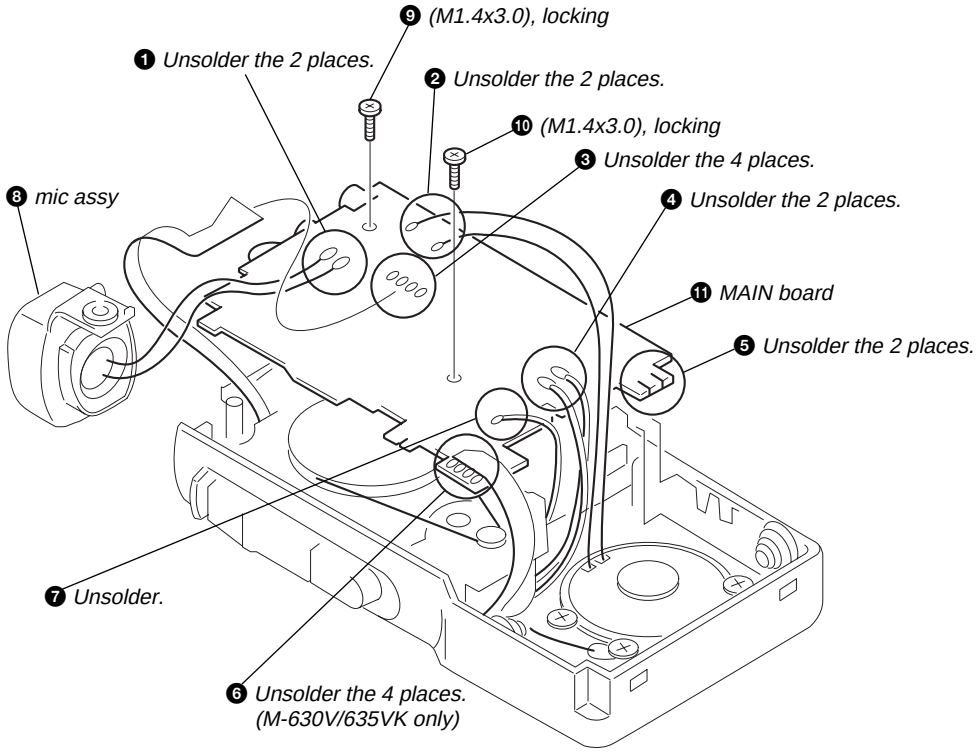


2-3. CABINET (REAR) ASSY

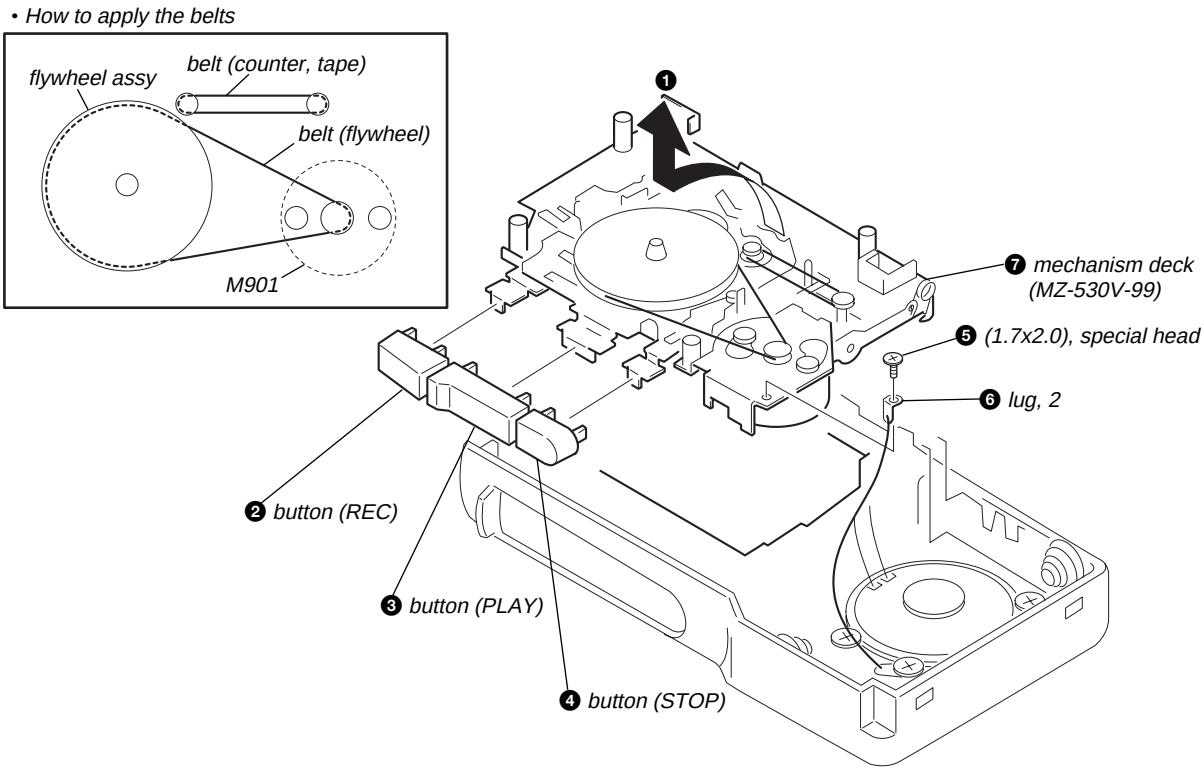
Note : When installing, fit the knobs and switches.



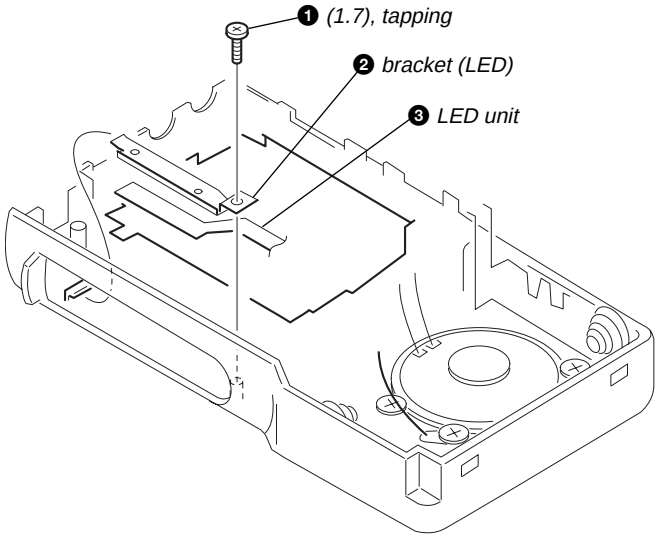
2-4. MAIN BOARD



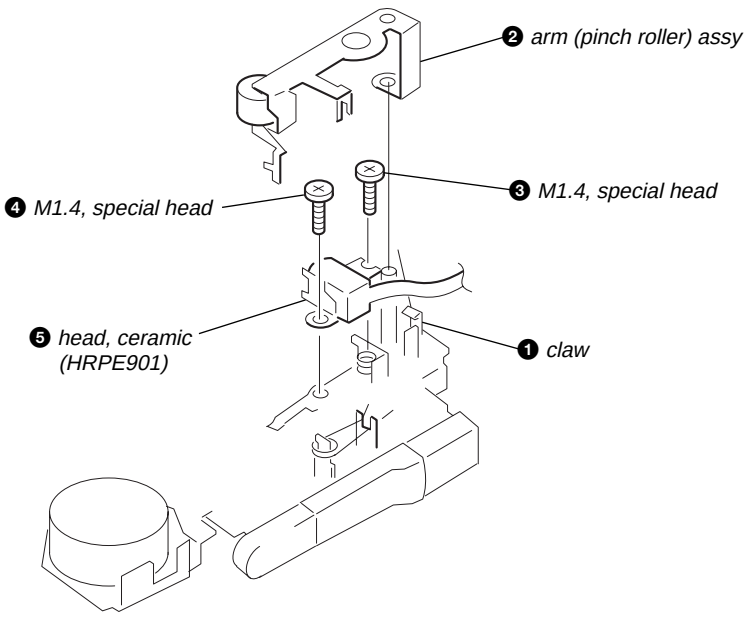
2-5. MACHANISM DECK



2-6. LED UNIT



2-7. HEAD, CERAMIC (HRPE901)



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback/erase head pinch roller
   rubber belts capstan
2. Demagnetize the record/playback/erase head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
   Power supply voltage : 3 Vdc
   TAPE SPEED switch : 2.4cm

Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-103M	5 – 13 g • cm (0.07 – 0.180 oz • inch)
Fast Forward	CQ-201M	more than 30 g • cm (more than 0.42 oz • inch)
Rewind	CQ-201M	more than 30 g • cm (more than 0.42 oz • inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403M	more than 20 g (more than 0.28 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

Test Tape

Type	Signal	Used for	Tape Speed (cm/s)
S-2-A030	3 kHz, – 20 dB	Head Azimuth Adjustment	2.4
WS-24	3 kHz, – 10 dB	Tape Speed Adjustment	2.4
WS-12			1.2

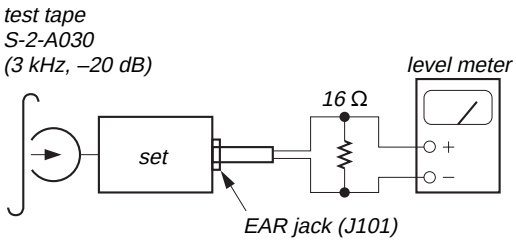
Record/Playback/Erase Head Azimuth Adjustment

Setting:

VOL control : mechanical mid
TAPE SPEED switch : 2.4cm/s
VOR switch : OFF

Procedure:

1. Mode : Playback

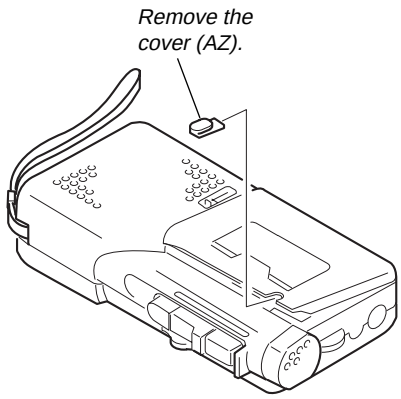


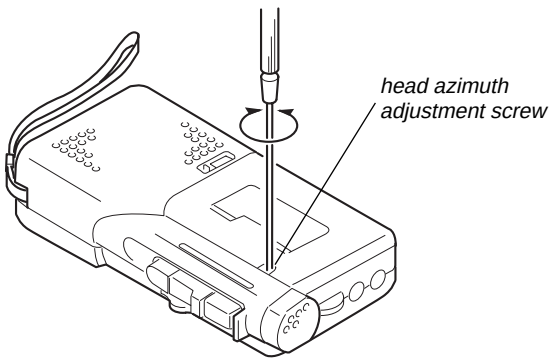
2. Turn the adjustment screw to obtain the maximum reading on level meter.

Note: Several peaks may appear, but the maximum.

Adjustment Location :

First remove the cover (AZ).





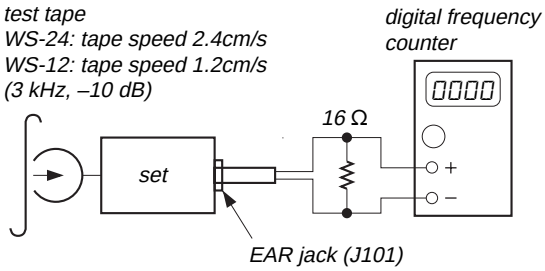
Tape Speed Adjustment

Setting:

VOL control : mechanical mid
VOR switch : OFF

Procedure:

• Reform 1.2 cm/s speed adjustment before 2.4 cm/s speed adjustment mode : playback



1. Tape Speed : 2.4 cm/s
   Playback WS-24 (tape center part) and adjust RV601 so that reading on the digital frequency counter becomes 3,000 Hz.

2. Tape Speed : 1.2 cm/s
   Playback WS-12 (tape center part) and adjust RV602 so that reading on the digital frequency counter becomes 3,000 Hz.

Specification Value:

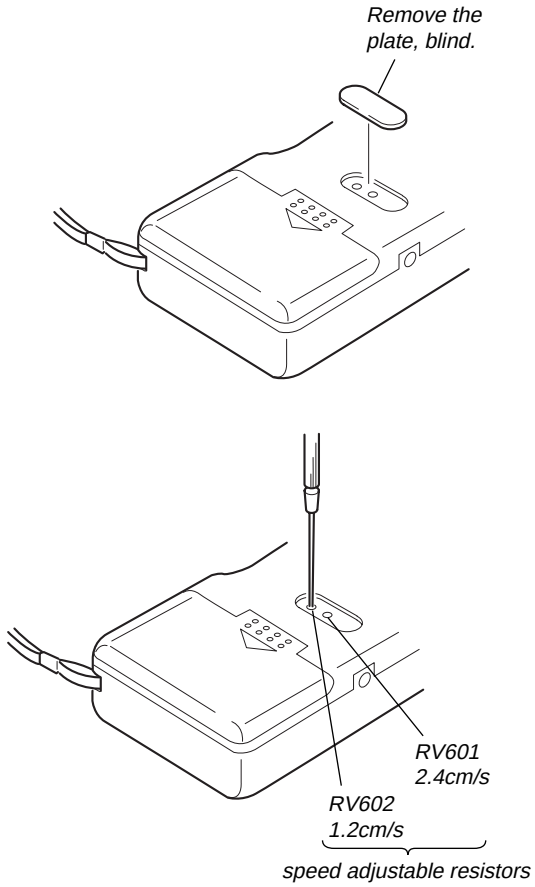
Tape Speed	Frequency counter
2.4 cm/s	2,880 to 3,120 Hz
1.2 cm/s	2,850 to 3,150 Hz

Frequency difference between the beginning and the end of the tape should be within ±0.5%.

2.4 cm/s (15 Hz)
1.2 cm/s (15 Hz)

Adjustment Location :

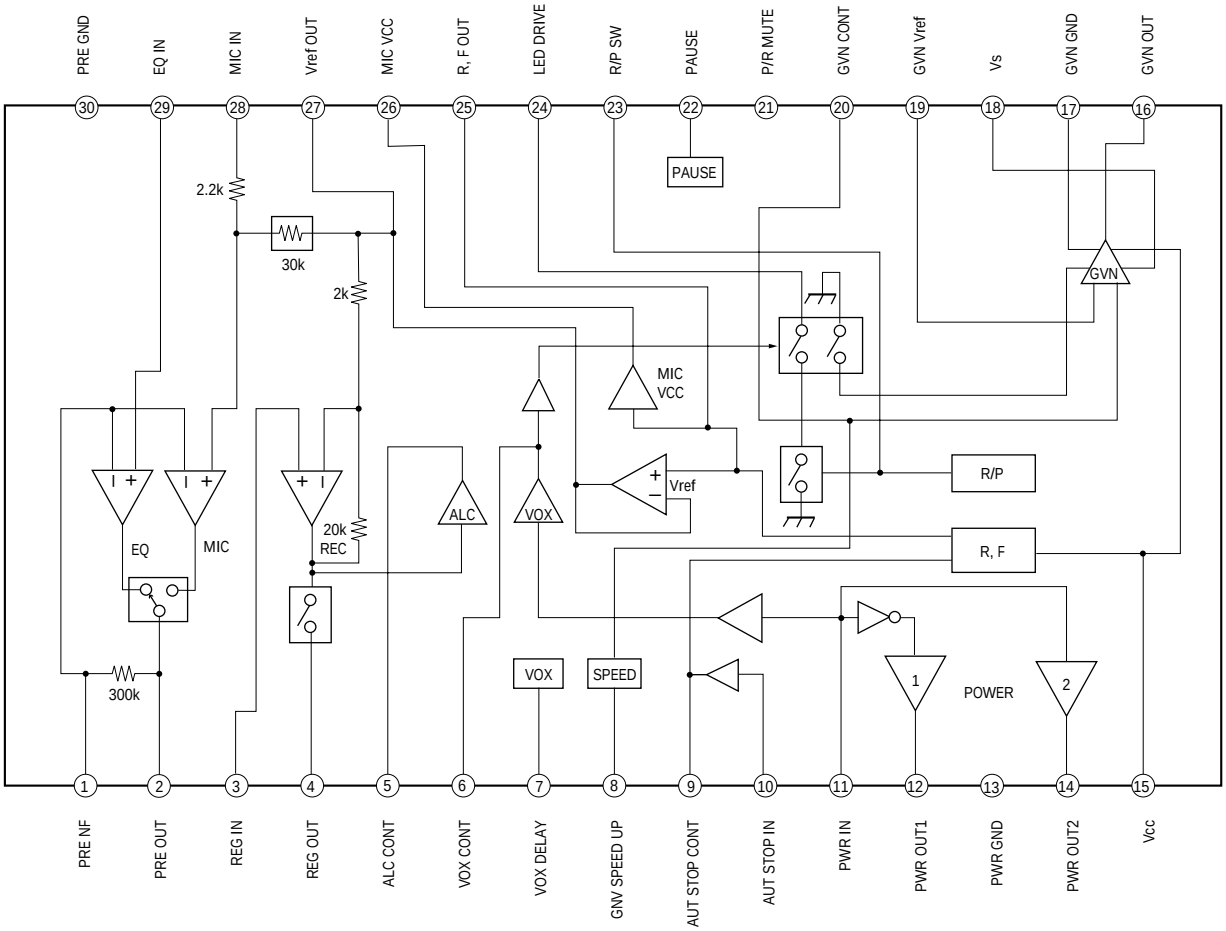
First remove the plate, blind.



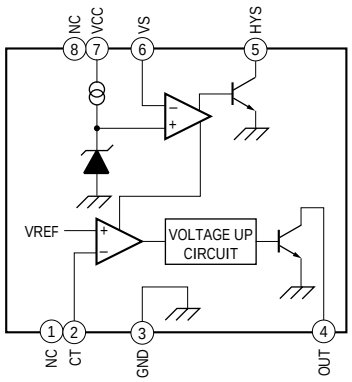
SECTION 5
DIAGRAMS

• IC Block Diagrams

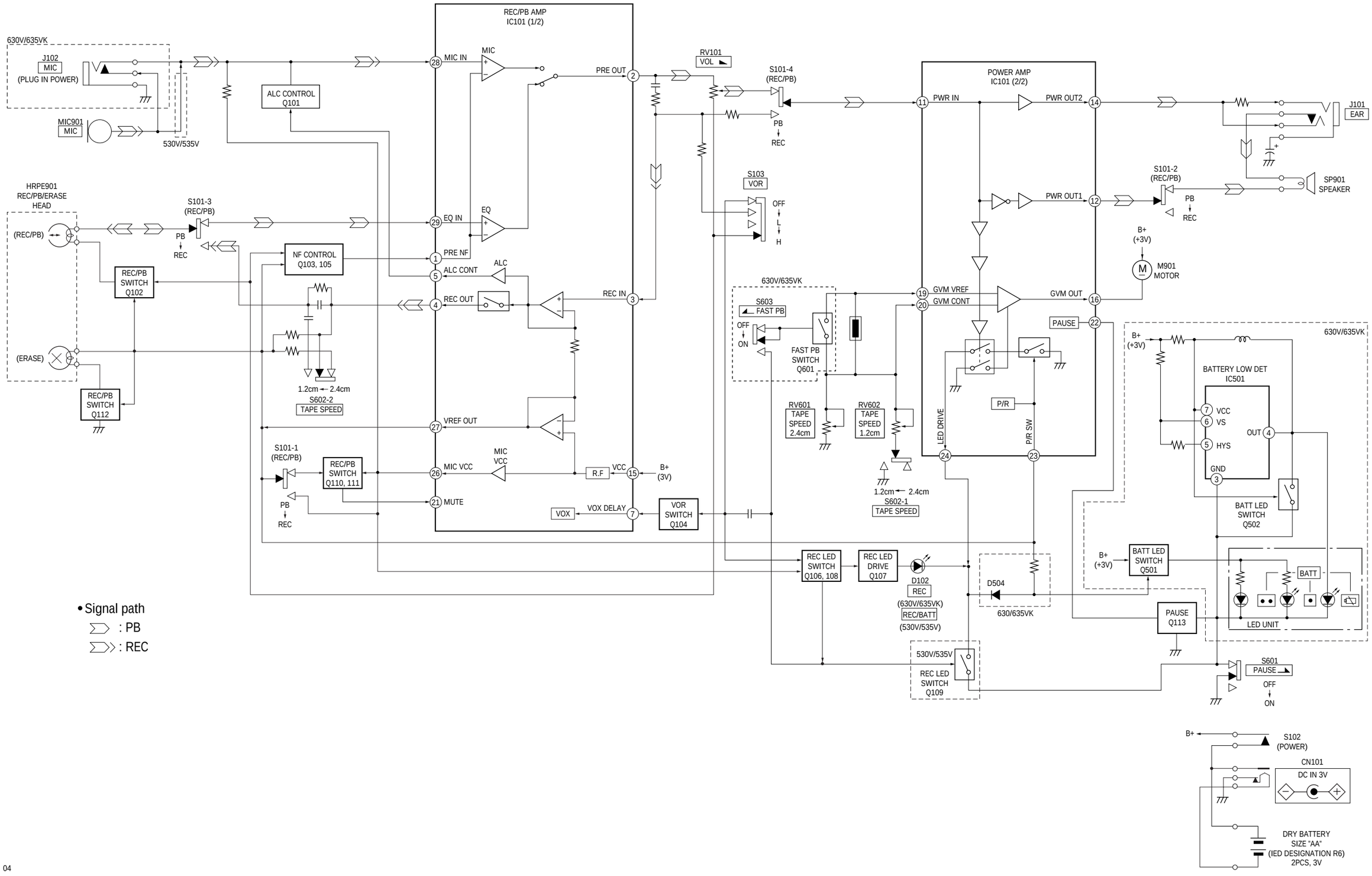
IC101 LA4168ML



IC501 MM1251BFBE (M-630V/635VK only)



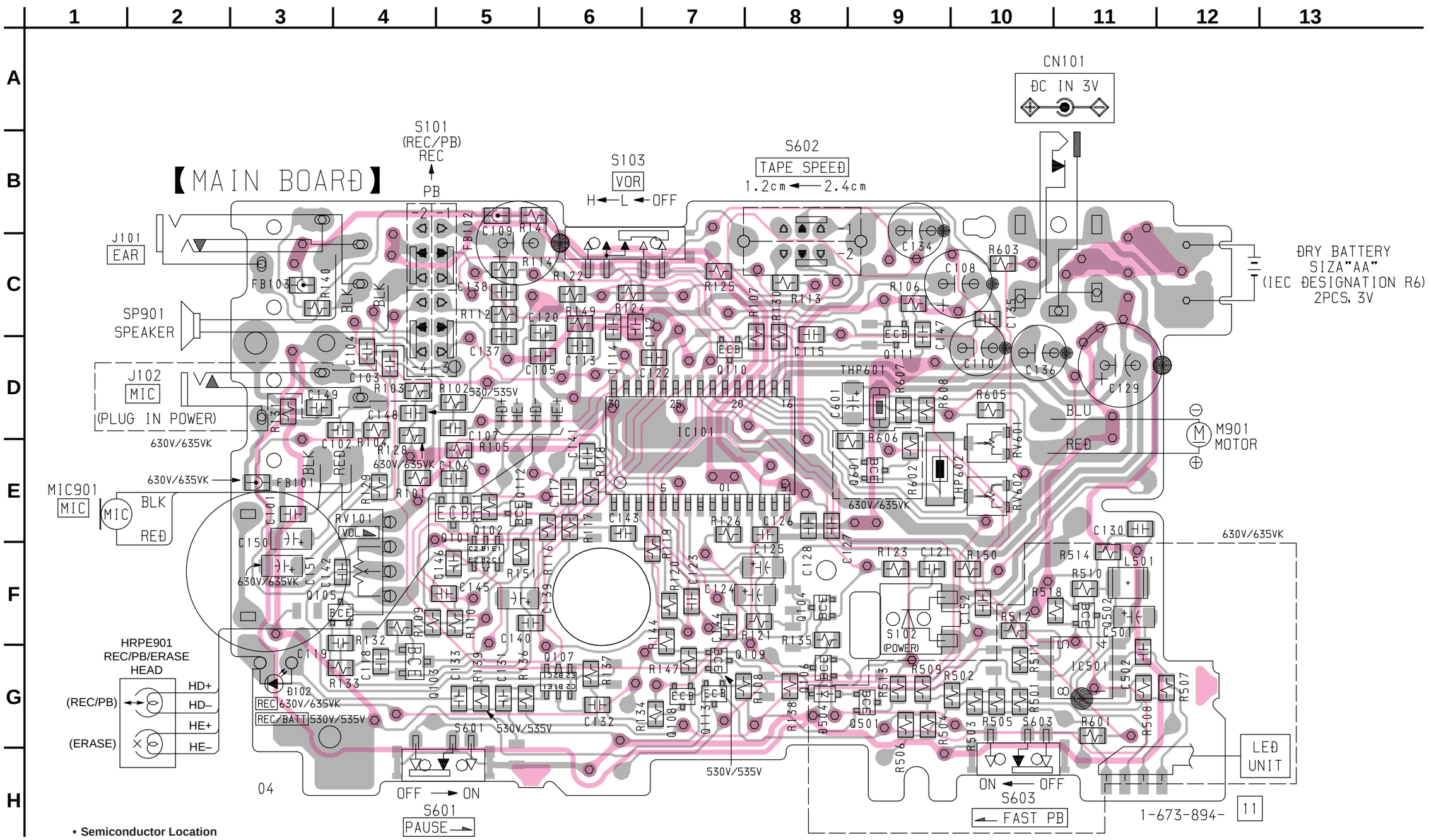
5-1. BLOCK DIAGRAM



• Signal path
: PB
: REC

04

5-2. PRINTED WIRING BOARD



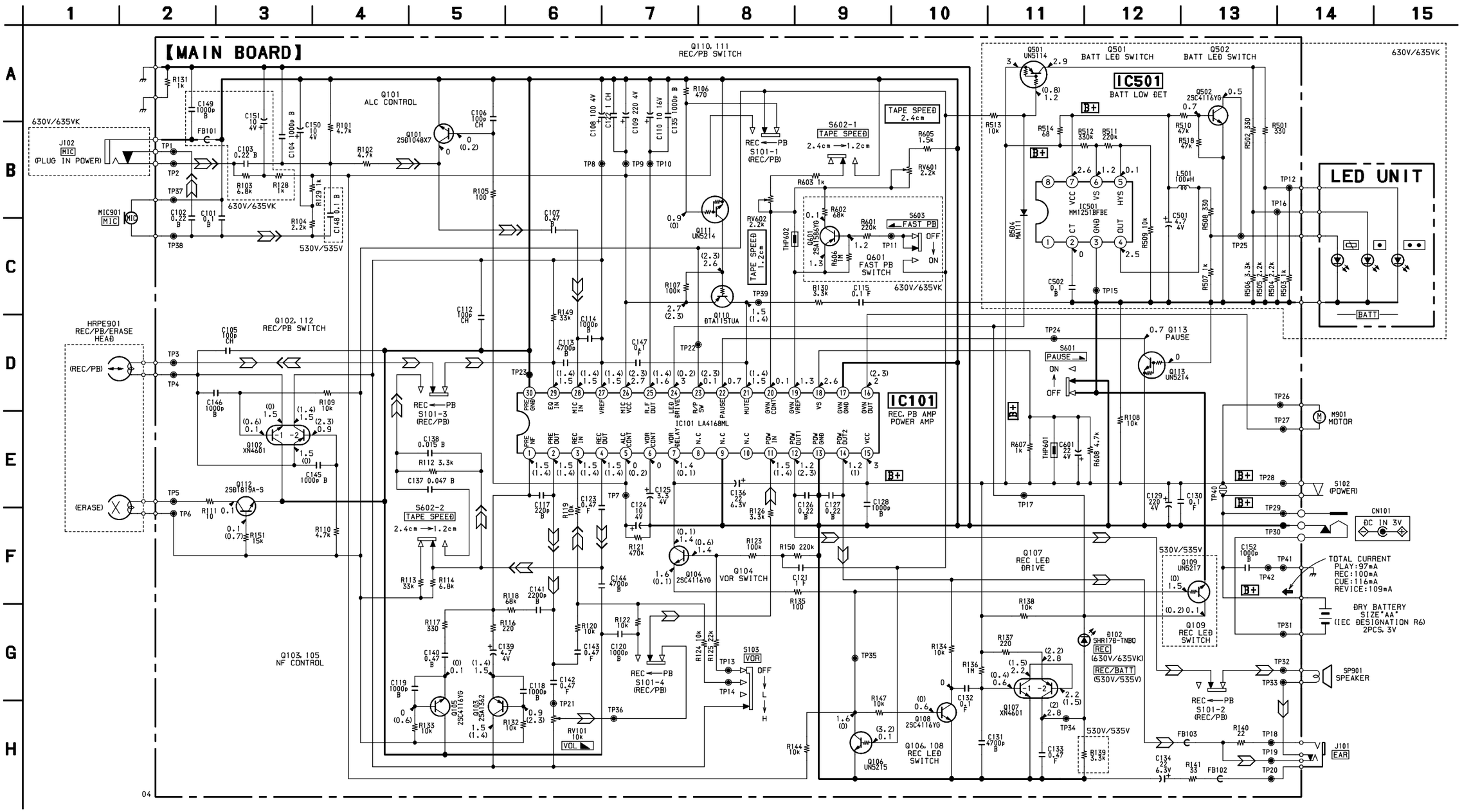
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D102	G-3	Q106	G-8
(D504)	G-8	Q107	G-5
		Q108	G-7
IC101	D-7	<Q109>	G-7
(IC501)	G-11	Q110	C-7
		Q111	C-9
Q101	E-4	Q112	E-5
Q102	E-5	Q113	G-7
Q103	G-4	(Q501)	G-8
Q104	F-8	(Q502)	F-11
Q105	F-3	(Q601)	E-8

( ) : 630V/635VK only
< > : 530V/535V only

Note:
- ——— : parts extracted from the conductor side.
- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

5-3. SCHEMATIC DIAGRAM • Refer to page 10 for IC Block Diagrams.



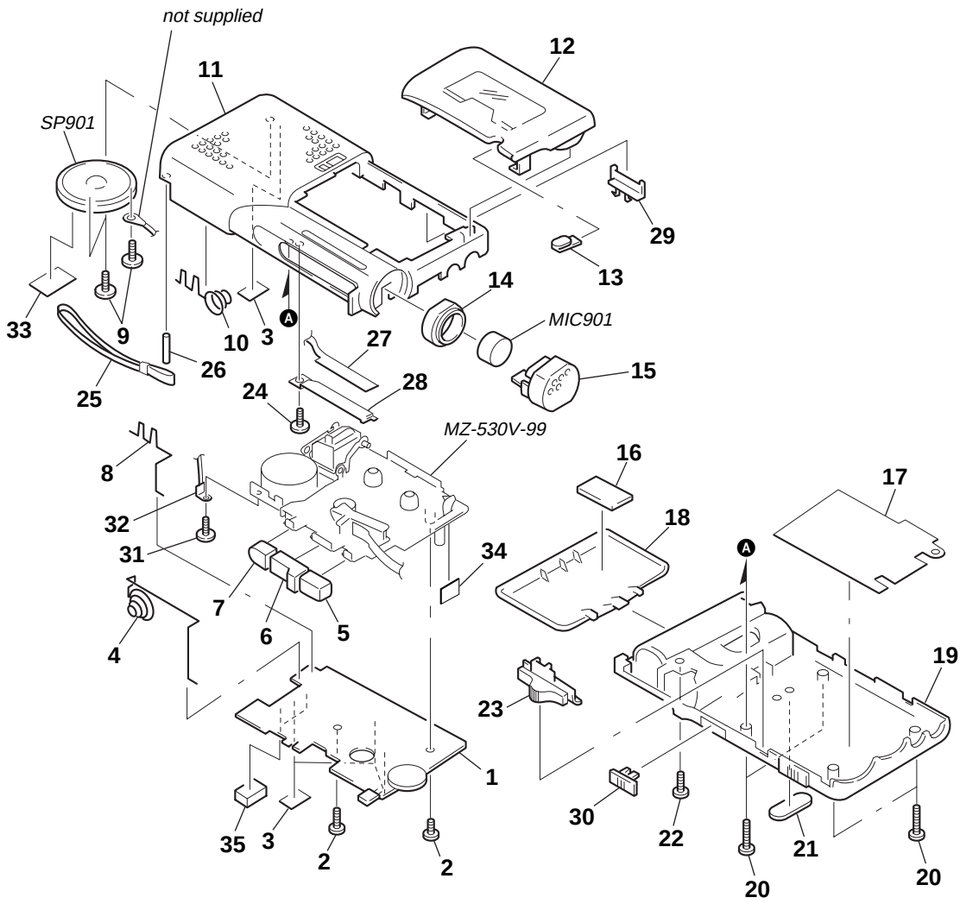
Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B + : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : PB
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PB
  : REC

SECTION 6
EXPLODED VIEWS

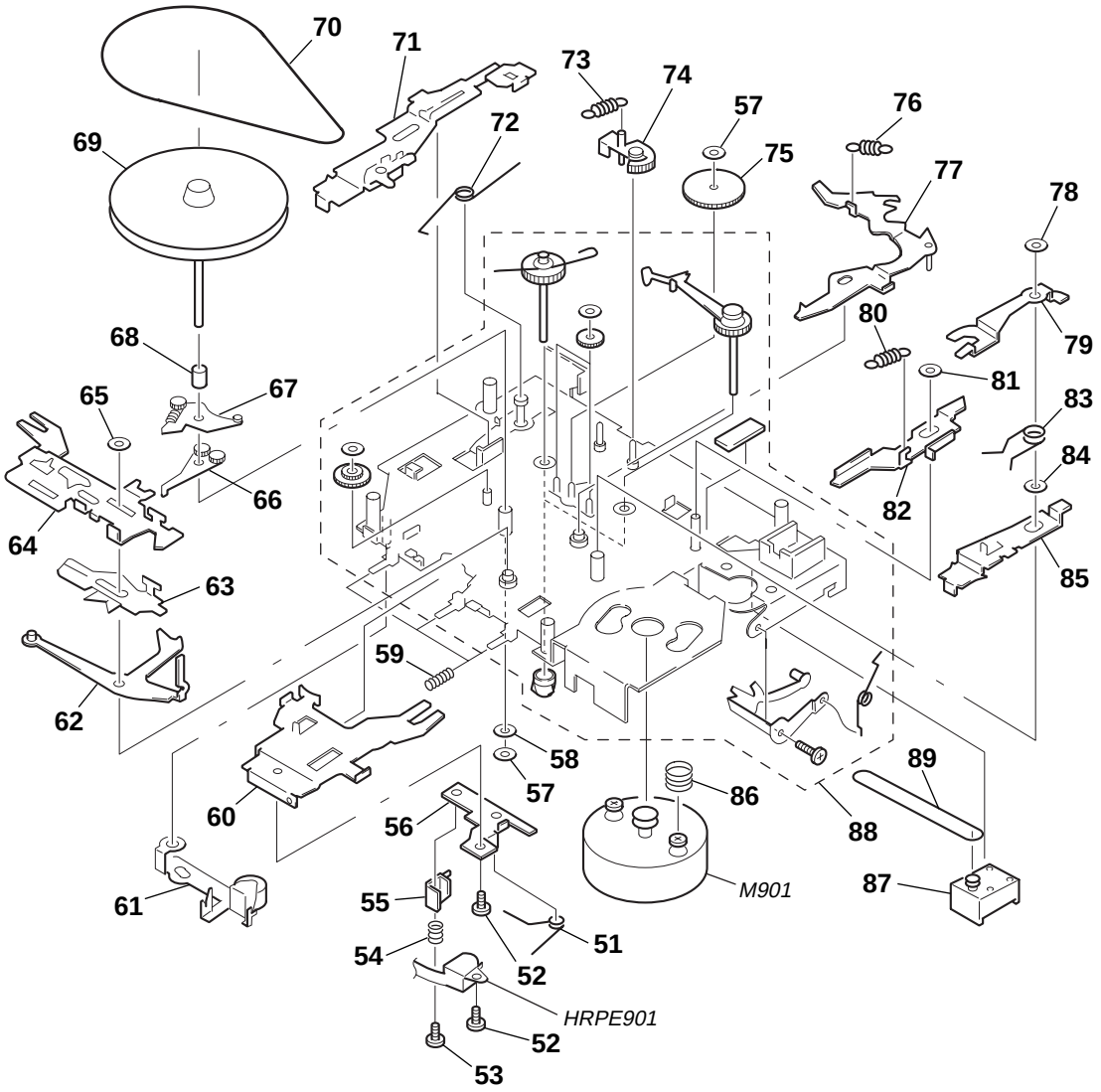
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model
  EE : East European model
  CH : Chinese model
  E : Indication of country of origin
  1E : No indication of country of origin
  JE : Tourist model

6-1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	A-3021-217-A	MAIN BOARD, COMPLETE (630V/635VK)	
1	A-3021-219-A	MAIN BOARD, COMPLETE (530V/535V)	
2	3-704-197-31	SCREW (M1.4X3.0), LOCKING	
3	3-831-441-99	SPACER, KNOB	
4	3-034-687-01	TERMINAL (-), BATTERY	
5	3-031-376-11	BUTTON (REC) (BLACK) (530V/535V)	
5	3-031-376-21	BUTTON (REC) (SILVER) (630V/635VK)	
6	3-031-375-01	BUTTON (PLAY) (BLACK) (530V/535V)	
6	3-031-375-11	BUTTON (PLAY) (SILVER) (630V/635VK)	
7	3-031-374-01	BUTTON (STOP) (BLACK) (530V/535V)	
7	3-031-374-11	BUTTON (STOP) (SILVER) (630V/635VK)	
8	3-034-686-01	TERMINAL (+), BATTERY	
9	3-034-792-01	SCREW (2X2.5), TAPPING (B)	
10	3-010-503-01	SPRING (B), BATTERY COIL	
11	3-032-409-01	CABINET (FRONT) (SILVER) (530V:1E)	
11	3-032-409-11	CABINET (FRONT) (SILVER) (530V:EXCEPT 1E)	
11	3-032-409-61	CABINET (FRONT) (BLACK) (535V:1E)	
11	3-032-409-71	CABINET (FRONT) (BLACK) (535V:EXCEPT 1E)	
11	X-3377-234-1	CABINET (FRONT) SUB ASSY (BLACK) (630V:AEP)	
11	X-3377-236-1	CABINET (FRONT) SUB ASSY (SILVER) (630V:1E)	
11	X-3377-238-1	CABINET (FRONT) SUB ASSY (SILVER) (635VK)	
11	X-3377-252-1	CABINET (FRONT) SUB ASSY (SILVER) (630V:EXCEPT 1E)	
12	X-3377-233-1	LID ASSY, CASSETTE (BLACK) (630V:AEP)	
12	X-3377-239-1	LID ASSY, CASSETTE (BLACK) (535V)	
12	X-3377-251-1	LID ASSY, CASSETTE (SILVER) (630V/635VK)	
12	X-3377-253-1	LID ASSY, CASSETTE (SILVER) (530V)	
* 13	3-033-185-01	COVER (AZ) (BLACK) (535V/630V:AEP)	
* 13	3-033-185-11	COVER (AZ) (SILVER) (530V/630V/635VK)	
14	3-031-382-01	CUSHION (MIC)	
15	3-031-372-01	CASE, MICROPHONE	
* 16	3-914-930-01	CUSHION (BATTERY CASE LID)	
17	3-037-004-01	PLATE, SHIELD	
18	3-031-371-01	LID, BATTERY CASE (BLACK) (535V/630V:AEP)	
18	3-031-371-11	LID, BATTERY CASE (SILVER) (530V/630V/635VK)	
19	X-3377-318-1	CABINET (REAR) ASSY (SILVER) (530V:EXCEPT JE)	
19	X-3377-320-1	CABINET (REAR) ASSY (SILVER) (530V:JE)	
19	X-3377-321-1	CABINET (REAR) ASSY (SILVER) (630V/635VK)	
19	X-3377-322-1	CABINET (REAR) ASSY (BLACK) (630V:AEP)	
19	X-3377-323-1	CABINET (REAR) ASSY (BLACK) (535V)	
20	3-035-255-01	SCREW (1.7X16) (BLACK) (535V:1E/630V:AEP)	
20	3-035-255-11	SCREW (1.7X16) (SILVER) (530V/535V:EXCEPT 1E/630V/635VK)	
21	3-358-363-41	PLATE, BLIND (BLACK) (535V/630V:AEP)	
21	3-358-363-61	PLATE, BLIND (SILVER) (530V/630V/635V)	
22	3-318-203-71	SCREW (B1.7X5), TAPPING (BLACK) (535V/630V:AEP)	
22	3-318-203-72	SCREW (B1.7X5), TAPPING (SILVER) (530V/630V/635VK)	
23	3-031-381-01	KNOB (FR) (BLACK) (535V/630V:AEP)	
23	3-031-381-11	KNOB (FR) (SILVER) (530V/630V/635VK)	
24	3-318-382-31	SCREW (1.7), TAPPING (630V/635VK)	
25	3-328-319-01	STRAP, HAND	
26	3-669-481-07	PIN (DIA.1X10), PARALLEL	
27	1-468-399-11	LED UNIT (630V/635VK)	
28	3-031-395-01	BRACKET (LED) (630V/635VK)	
29	3-033-358-01	KNOB (VOR) (LIGHT GRAY) (530V/630V/635VK)	
29	3-033-358-11	KNOB (VOR) (DARK GRAY) (535V/630V:AEP)	
30	3-033-357-01	KNOB (F-PB) (LIGHT GRAY) (630V/635VK)	
31	3-891-132-00	SCREW (M1.7X2.0), SPECIAL HEAD	
32	7-623-505-01	LUG, 2	
33	3-037-193-01	CUSHION (SP)	
34	3-036-882-01	SPACER (JACK)	
35	3-037-146-01	CUSHION (A)	
MIC901	1-542-386-11	MICROPHONE, ELECTRET CONDENSER (MIC)	
SP901	1-505-838-11	SPEAKER (3.6cm)	

6-2. MECHANISM DECK SECTION (MZ-530V-99)



Ref. No.	Part No.	Description	Remark
51	3-028-965-01	SPRING (PINCH ARM), TORSION	
52	3-703-816-31	SCREW (M1.4), SPECIAL HEAD	
53	3-703-816-73	SCREW (M1.4), SPECIAL HEAD	
54	3-028-960-01	SPRING (AZIMUTH), COMPRESSION	
55	3-028-909-01	GUIDE (N), TAPE	
* 56	3-029-640-01	LEVER (PLAY.OW)	
57	3-331-007-21	WASHER	
58	3-350-989-01	WASHER	
59	3-028-961-01	SPRING (BUTTON), COMPRESSION	
60	3-028-924-01	LEVER (PLAY)	
61	X-3376-235-1	ARM (PINCH ROLLER) ASSY	
62	3-028-929-01	LEVER (SW)	
63	3-028-940-01	LEVER (SRS)	
64	3-028-938-01	LEVER (SLIDE)	
65	3-578-224-00	WASHER	
66	X-3376-227-1	LEVER (F/R) ASSY	
67	X-3376-228-1	LEVER (TU) ASSY	
68	3-029-634-01	BEARING	
69	X-3376-231-1	FLYWHEEL ASSY	
70	3-377-420-11	BELT (FLYWHEEL)	
71	X-3376-224-1	LEVER (REC) ASSY	

Ref. No.	Part No.	Description	Remark
72	3-029-641-01	SPRING, TORSION	
73	3-028-957-01	SPRING (CAM GEAR), TENSION	
74	3-028-966-01	GEAR (S-OFF-OW), CAM	
75	X-3376-230-1	LIMITER ASSY	
76	3-028-955-01	SPRING (LOCK), TENSION	
77	X-3377-535-1	LEVER (LOCK) ASSY	
78	4-992-239-01	WASHER (A)	
* 79	3-028-967-01	LEVER (PAUSE RELEASE)	
80	3-028-954-01	SPRING (SW LEVER), TENSION	
81	3-321-483-11	RING, RETAINING	
82	3-028-928-01	LEVER (EJECT)	
83	3-028-964-01	SPRING (SLIDER), TORSION	
84	4-926-562-01	WASHER, STOPPER	
85	3-028-927-01	LEVER (STOP)	
86	3-028-917-01	SPRING (GROUND), COMPRESSION	
87	1-548-579-41	COUNTER, TAPE (SMALL TYPE)	
88	X-3376-223-1	CHASSIS (COMP) ASSY	
89	3-343-948-01	BELT (COUNTER,TAPE)	
HRPE901	1-500-593-11	HEAD, CERAMIC (REC/PB/ERASE)	
M901	1-698-533-11	MOTOR, DC (CAPSTAN/REEL) (including PULLEY)	

MAIN

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH
  When indicating parts by reference number, please include the board.
- Abbreviation
  CND : Canadian model
  EE : East European model
  CH : Chinese model
  E : Indication of country of origin
  1E : No indication of country of origin
  JE : Tourist model

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-3021-217-A	MAIN BOARD, COMPLETE (630V/635VK)			
	A-3021-219-A	MAIN BOARD, COMPLETE (530V/535V)			
		**********			
		< CAPACITOR >			
C101	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C103	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (630V/635VK)
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C105	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C106	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C107	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C108	1-124-433-00	ELECT	100uF	20%	4V
C109	1-124-434-00	ELECT	220uF	20%	4V
C110	1-104-396-11	ELECT	10uF	20%	16V
C112	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C113	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C114	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C115	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C117	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C119	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C120	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C121	1-164-346-11	CERAMIC CHIP	1uF		16V
C122	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C123	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C124	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C125	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C126	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C127	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C128	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C129	1-104-402-11	ELECT	220uF	20%	4V
C130	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C131	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C132	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C133	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C134	1-126-153-11	ELECT	22uF	20%	6.3V
C135	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C136	1-126-153-11	ELECT	22uF	20%	6.3V
C137	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C138	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C139	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C140	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C141	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C142	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C143	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C144	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C145	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C146	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C147	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C148	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V (530V/535V)
C149	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V (630V/635VK)
C150	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C151	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C152	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C501	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V (630V/635VK)
C502	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V (630V/635VK)
C601	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
		< JACK >			
CN101	1-580-372-41	JACK, DC (POLARITY UNIFIED TYPE)			(DC IN 3V)
		< DIODE >			
D102	8-719-062-18	LED SHR17D-TNBO (REC/BATT) (530V/535V)			
D102	8-719-062-18	LED SHR17D-TNBO (REC) (630V/635VK)			
D504	8-719-404-50	DIODE MA111-TX (630V/635VK)			
		< FERRITE BEAD >			
FB101	1-414-235-22	INDUCTOR, FERRITE BEAD (630V/635VK)			
FB102	1-414-235-22	INDUCTOR, FERRITE BEAD			
FB103	1-414-235-22	INDUCTOR, FERRITE BEAD			
		< IC >			
IC101	8-759-492-49	IC LA4168ML-TE-L			
IC501	8-759-399-49	IC MM1251BFBE (630V/635VK)			
		< JACK >			
J101	1-785-791-11	JACK (EAR)			
J102	1-785-790-11	JACK (MIC (PLUG IN POWER)) (630V/635VK)			
		< COIL >			
L501	1-412-032-11	INDUCTOR CHIP 100uH (630V/635VK)			

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q101	8-729-800-37	TRANSISTOR	2SD1048-X7		
Q102	8-729-402-84	TRANSISTOR	XN4601		
Q103	8-729-230-72	TRANSISTOR	2SA1362YG		
Q104	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q105	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q106	8-729-420-50	TRANSISTOR	UN5215		
Q107	8-729-402-84	TRANSISTOR	XN4601		
Q108	8-729-230-63	TRANSISTOR	2SC4116-YG		
Q109	8-729-422-48	TRANSISTOR	UN5217 (530V/535V)		
Q110	8-729-028-78	TRANSISTOR	DTA115TUA-T106		
Q111	8-729-402-93	TRANSISTOR	UN5214-TX		
Q112	8-729-402-33	TRANSISTOR	2SD1819A-S		
Q113	8-729-402-93	TRANSISTOR	UN5214-TX		
Q501	8-729-402-96	TRANSISTOR	UN5114 (630V/635VK)		
Q502	8-729-230-63	TRANSISTOR	2SC4116-YG (630V/635VK)		
Q601	8-729-230-60	TRANSISTOR	2SA1586-YG (630V/635VK)		
		< RESISTOR >			
R101	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R102	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R103	1-216-069-00	METAL CHIP	6.8K	5%	1/10W (630V/635VK)
R104	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R105	1-216-025-00	RES,CHIP	100	5%	1/10W
R106	1-216-041-11	METAL CHIP	470	5%	1/10W
R107	1-216-097-00	RES,CHIP	100K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-073-00	METAL CHIP	10K	5%	1/10W
R110	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R111	1-216-001-00	METAL CHIP	10	5%	1/10W
R112	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R113	1-216-085-00	METAL CHIP	33K	5%	1/10W
R114	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R116	1-216-033-00	METAL CHIP	220	5%	1/10W
R117	1-216-037-00	METAL CHIP	330	5%	1/10W
R118	1-216-093-00	RES,CHIP	68K	5%	1/10W
R119	1-216-073-00	METAL CHIP	10K	5%	1/10W
R120	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-113-00	METAL CHIP	470K	5%	1/10W
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W
R123	1-216-097-00	RES,CHIP	100K	5%	1/10W
R124	1-216-073-00	METAL CHIP	10K	5%	1/10W
R125	1-216-081-00	METAL CHIP	22K	5%	1/10W
R126	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R128	1-216-049-11	RES,CHIP	1K	5%	1/10W (630V/635VK)
R129	1-216-049-11	RES,CHIP	1K	5%	1/10W
R130	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R131	1-216-049-11	RES,CHIP	1K	5%	1/10W
R132	1-216-073-00	METAL CHIP	10K	5%	1/10W
R133	1-216-073-00	METAL CHIP	10K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R134	1-216-073-00	METAL CHIP	10K	5%	1/10W
R135	1-216-025-00	RES,CHIP	100	5%	1/10W
R136	1-216-121-00	RES,CHIP	1M	5%	1/10W
R137	1-216-033-00	METAL CHIP	220	5%	1/10W
R138	1-216-073-00	METAL CHIP	10K	5%	1/10W
R139	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (530V/535V)
R140	1-216-009-00	RES,CHIP	22	5%	1/10W
R141	1-216-013-00	METAL CHIP	33	5%	1/10W
R144	1-216-073-00	METAL CHIP	10K	5%	1/10W
R147	1-216-073-00	METAL CHIP	10K	5%	1/10W
R149	1-216-085-00	METAL CHIP	33K	5%	1/10W
R150	1-216-105-00	RES,CHIP	220K	5%	1/10W
R151	1-216-077-00	METAL CHIP	15K	5%	1/10W
R501	1-216-037-00	METAL CHIP	330	5%	1/10W (630V/635VK)
R502	1-216-037-00	METAL CHIP	330	5%	1/10W (630V/635VK)
R503	1-216-049-11	RES,CHIP	1K	5%	1/10W (630V/635VK)
R504	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (630V/635VK)
R505	1-216-057-00	METAL CHIP	2.2K	5%	1/10W (630V/635VK)
R506	1-216-061-00	METAL CHIP	3.3K	5%	1/10W (630V/635VK)
R507	1-216-049-11	RES,CHIP	1K	5%	1/10W (630V/635VK)
R508	1-216-037-00	METAL CHIP	330	5%	1/10W (630V/635VK)
R509	1-216-073-00	METAL CHIP	10K	5%	1/10W (630V/635VK)
R510	1-216-089-00	RES,CHIP	47K	5%	1/10W (630V/635VK)
R511	1-216-105-00	RES,CHIP	220K	5%	1/10W (630V/635VK)
R512	1-216-109-00	METAL CHIP	330K	5%	1/10W (630V/635VK)
R513	1-216-073-00	METAL CHIP	10K	5%	1/10W (630V/635VK)
R514	1-216-021-00	METAL CHIP	68	5%	1/10W (630V/635VK)
R518	1-216-089-00	RES,CHIP	47K	5%	1/10W (630V/635VK)
R601	1-216-105-00	RES,CHIP	220K	5%	1/10W (630V/635VK)
R602	1-216-093-00	RES,CHIP	68K	5%	1/10W (630V/635VK)
R603	1-216-049-11	RES,CHIP	1K	5%	1/10W
R605	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R606	1-216-121-00	RES,CHIP	1M	5%	1/10W (630V/635VK)
R607	1-216-049-11	RES,CHIP	1K	5%	1/10W
R608	1-216-065-00	METAL CHIP	4.7K	5%	1/10W

MAIN

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV101	1-237-731-21	RES, VAR, CARBON 10K (VOL)	
RV601	1-223-584-11	RES, ADJ, CARBON 2.2K	
RV602	1-223-584-11	RES, ADJ, CARBON 2.2K	
		< SWITCH >	
S101	1-572-964-11	SWITCH, SLIDE (REC/PB)	
S102	1-572-688-11	SWITCH, PUSH (1 KEY) (POWER)	
S103	1-692-605-31	SWITCH, SLIDE (VOR)	
S601	1-572-922-11	SWITCH, SLIDE (PAUSE)	
S602	1-692-298-11	SWITCH, SLIDE (TAPE SPEED)	
S603	1-572-922-11	SWITCH, SLIDE (FAST PB) (630V/635VK)	
		< THERMISTOR (POSITIVE) >	
THP601	1-810-552-11	THERMISTOR, POSITIVE	
THP602	1-803-117-11	THERMISTOR, POSITIVE	
**********			
		MISCELLANEOUS	
		**********	
27	1-468-399-11	LED UNIT (630V/635VK)	
87	1-548-579-41	COUNTER, TAPE (SMALL TYPE)	
HRPE901	1-500-593-11	HEAD, CERAMIC (REC/PB/ERASE)	
M901	1-698-533-11	MOTOR, DC (CAPSTAN/REEL) (including PULLEY)	
MIC901	1-542-386-11	MICROPHONE, ELECTRET CONDENSER (MIC)	
SP901	1-505-838-11	SPEAKER (3.6cm)	
**********			

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-528-405-31	ADAPTOR, BATTERY CHARGE (BCA-35E) (635VK)	
⚠	1-693-073-21	ADAPTOR, AC (AC-E351) (635VK)	
	3-035-588-01	POUCH, CARRYING (530V:JE/630V:AEP,EE)	
	3-865-285-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH) (530V:US,CND/535V:EXCEPT E,1E)	
	3-865-285-61	MANUAL, INSTRUCTION (SPANISH,ITALIAN) (535V:AEP)	
	3-865-285-71	MANUAL, INSTRUCTION (ENGLISH) (630V:US,CND/635VK)	
	3-865-285-81	MANUAL, INSTRUCTION (FRENCH) (530V:AEP/630V:CND,AEP/635VK:CND)	
	3-865-285-91	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,ITALIAN) (530V:AEP,E/535V:E/630V:AEP,E)	
	3-866-171-01	MANUAL, INSTRUCTION (JAPANESE) (530V:JE)	
	3-866-171-11	MANUAL, INSTRUCTION (GERMAN,DUTCH, SWEDISH,FINNISH) (530V:AEP/630V:AEP)	
	3-866-171-21	MANUAL, INSTRUCTION (ENGLISH, SIMPLIFIED CHINESE,HUNGARIAN, RUSSIAN) (EE,CH,JE)	
	3-866-171-31	MANUAL, INSTRUCTION (TRADITIONAL CHINESE,KOREAN, POLISH,CZECH) (EE,JE)	
	3-866-171-41	MANUAL, INSTRUCTION (ENGLISH, TRADITIONAL CHINESE) (1E)	

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

M-530V/535V/630V/635VK

SONY

SERVICE MANUAL

Ver 1.2 1999. 09

US Model
Canadian Model
M-530V/535V/630V/635VK
AEP Model
E Model
Chinese Model
M-530V/535V/630V
Tourist Model
M-530V

SUPPLEMENT-1

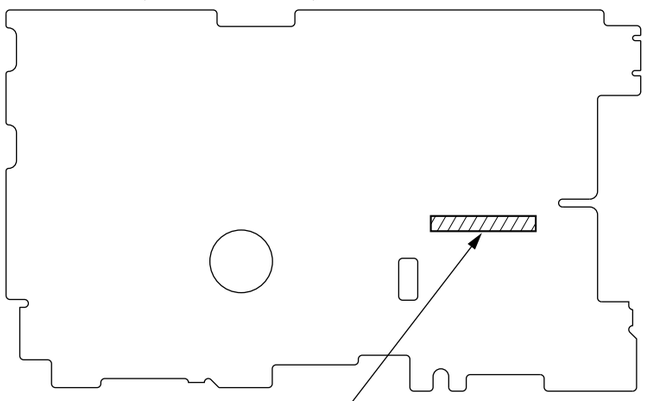
File this supplement with the service manual.

Subject : • Change of Main Board
• Corrections

(ECN-MTA00149)

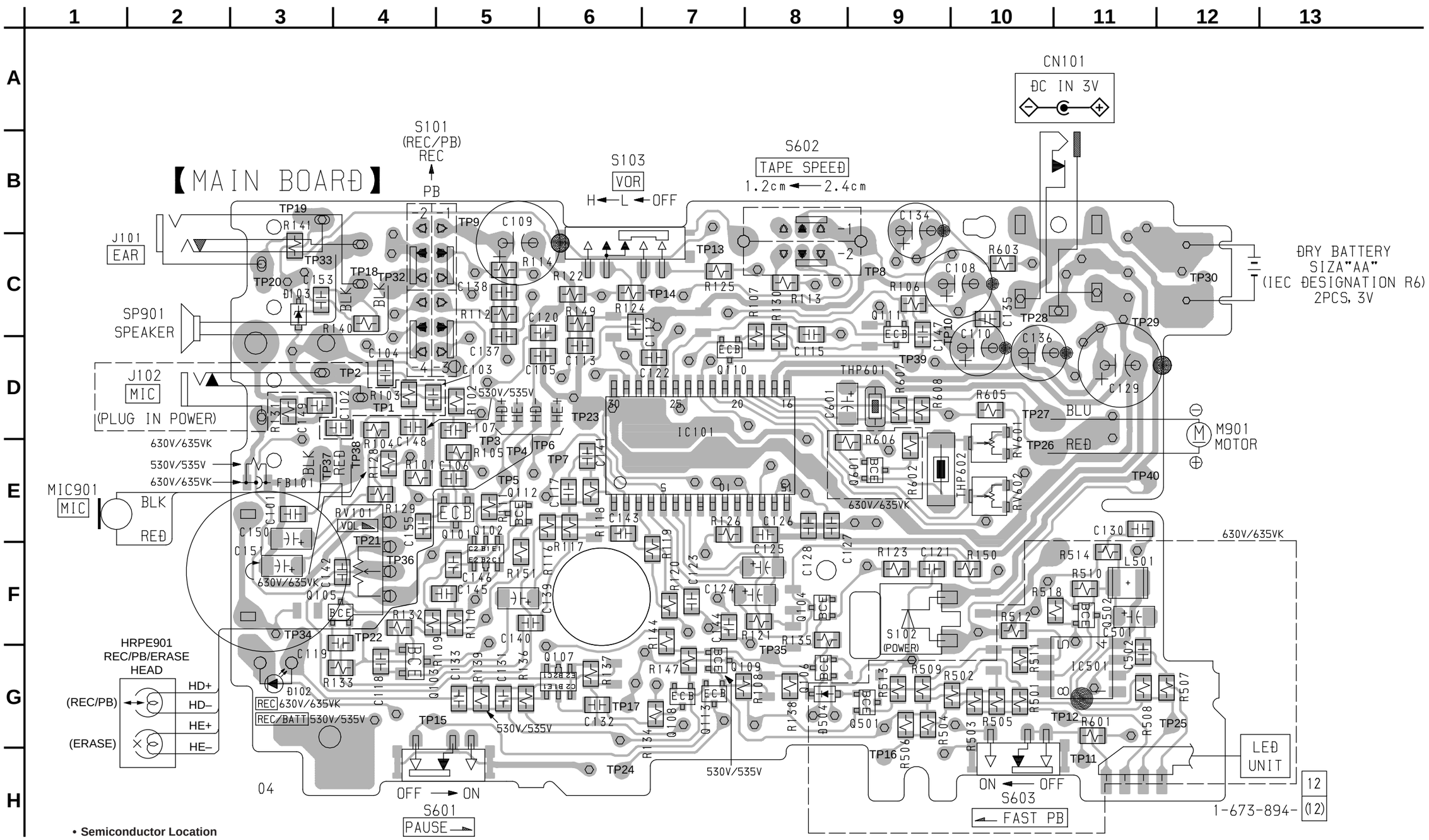
Printed wiring board and schematic diagram of new type, and changed parts list are described in this Supplement-1.
Refer to original service manual (9-926-961-12) previously issued for the other information.
When performing service and inspection, check the suffix of the part number of the main board.

– MAIN BOARD (CONDUCTOR SIDE) –



MAIN Board Part No.
Former type : 1-673-894-11
New type : 1-673-894-12

1. PRINTED WIRING BOARD



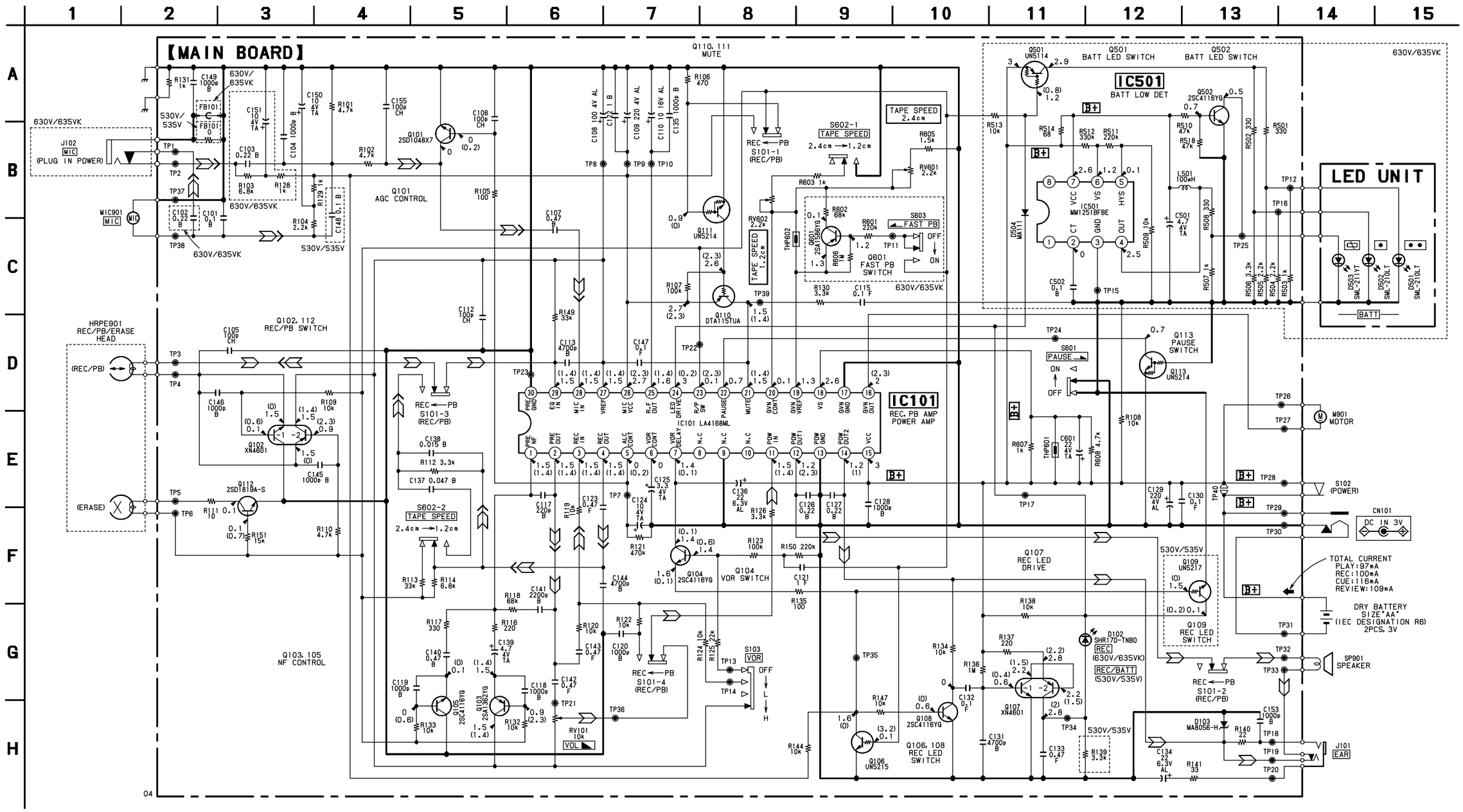
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D102	G-3	Q106	G-8
D103	C-3	Q107	G-6
(D504)	G-8	Q108	G-7
		<Q109>	G-7
IC101	D-7	Q110	D-7
(IC501)	G-11	Q111	C-9
		Q112	E-5
Q101	E-5	Q113	G-7
Q102	F-5	(Q501)	G-9
Q103	G-4	(Q502)	F-11
Q104	F-8	(Q601)	E-9
Q105	F-4		

( ) : 630V/635VK only
< > : 530V/535V only

Note:
- ——— : parts extracted from the conductor side.
- ▒▒▒ : Pattern from the side which enables seeing.
- Pattern of the rear side is omitted.

2. SCHEMATIC DIAGRAM



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B + : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : PB
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PB
  : REC

3. ELECTRICAL PARTS LIST

MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH
  When indicating parts by reference number, please include the board.
- Abbreviation
  CND : Canadian model
  EE : East European model
  CH : Chinese model
  E : Indication of country of origin
  1E : No indication of country of origin
  JE : Tourist model

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-3021-217-A	MAIN BOARD, COMPLETE (630V/635VK)			
	A-3021-219-A	MAIN BOARD, COMPLETE (530V/535V)			
		**********			
	4-935-749-11	SPACER (S)			
		< CAPACITOR >			
C101	1-107-725-11	CERAMIC CHIP	0.1uF	10% 16V	
C102	1-164-489-11	CERAMIC CHIP	0.22uF	10% 16V	(630V/635VK)
C103	1-164-489-11	CERAMIC CHIP	0.22uF	10% 16V	(630V/635VK)
C104	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C105	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C106	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C107	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V	
C108	1-124-433-00	ELECT	100uF	20% 4V	
C109	1-124-434-00	ELECT	220uF	20% 4V	
C110	1-104-396-11	ELECT	10uF	20% 16V	
C112	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C113	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	
C115	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C117	1-163-001-11	CERAMIC CHIP	220PF	10% 50V	
C118	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C119	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C120	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C121	1-164-346-11	CERAMIC CHIP	1uF	16V	
C122	1-109-982-11	CERAMIC CHIP	1uF	10% 10V	
C123	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C124	1-135-201-11	TANTALUM CHIP	10uF	20% 4V	
C125	1-135-180-21	TANTALUM CHIP	3.3uF	20% 6.3V	
C126	1-164-489-11	CERAMIC CHIP	0.22uF	10% 16V	
C127	1-164-489-11	CERAMIC CHIP	0.22uF	10% 16V	
C128	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C129	1-124-434-00	ELECT	220uF	20% 4V	
C130	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C131	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	
C132	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C133	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C134	1-126-153-11	ELECT	22uF	20% 6.3V	
C135	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C136	1-126-153-11	ELECT	22uF	20% 6.3V	
C137	1-163-809-11	CERAMIC CHIP	0.047uF	10% 25V	
C138	1-163-023-00	CERAMIC CHIP	0.015uF	5% 50V	
C139	1-135-151-21	TANTALUM CHIP	4.7uF	20% 4V	
C140	1-107-823-11	CERAMIC CHIP	0.47uF	10% 16V	
C141	1-164-161-11	CERAMIC CHIP	0.0022uF	10% 100V	
C142	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C143	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C144	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	
C145	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C146	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C147	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C148	1-107-725-11	CERAMIC CHIP	0.1uF	10% 16V	(530V/535V)
C149	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C150	1-135-201-11	TANTALUM CHIP	10uF	20% 4V	
C151	1-135-201-11	TANTALUM CHIP	10uF	20% 4V	(630V/635VK)
C153	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C155	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C501	1-135-151-21	TANTALUM CHIP	4.7uF	20% 4V	(630V/635VK)
C502	1-107-725-11	CERAMIC CHIP	0.1uF	10% 16V	(630V/635VK)
C601	1-104-847-11	TANTAL. CHIP	22uF	20% 4V	
		< JACK >			
CN101	1-580-372-41	JACK, DC (POLARITY UNIFIED TYPE)			(DC IN 3V)
		< DIODE >			
D102	8-719-062-18	LED SHR17D-TNBO (REC/BATT) (530V/535V)			
D102	8-719-062-18	LED SHR17D-TNBO (REC) (630V/635VK)			
D103	8-719-977-03	DIODE DTZ5.6B			
D504	8-719-073-01	DIODE MA111-(K8).SO (630V/635VK)			
		< FERRITE BEAD >			
FB101	1-216-295-00	SHORT 0 (530V/535V)			
FB101	1-414-235-22	INDUCTOR, FERRITE BEAD (630V/635VK)			
		< IC >			
IC101	8-759-492-49	IC LA4168ML-TE-L			
IC501	8-759-399-49	IC MM1251BFBE (630V/635VK)			
		< JACK >			
J101	1-785-791-11	JACK (EAR)			
J102	1-785-790-11	JACK (MIC (PLUG IN POWER)) (630V/635VK)			

MAIN

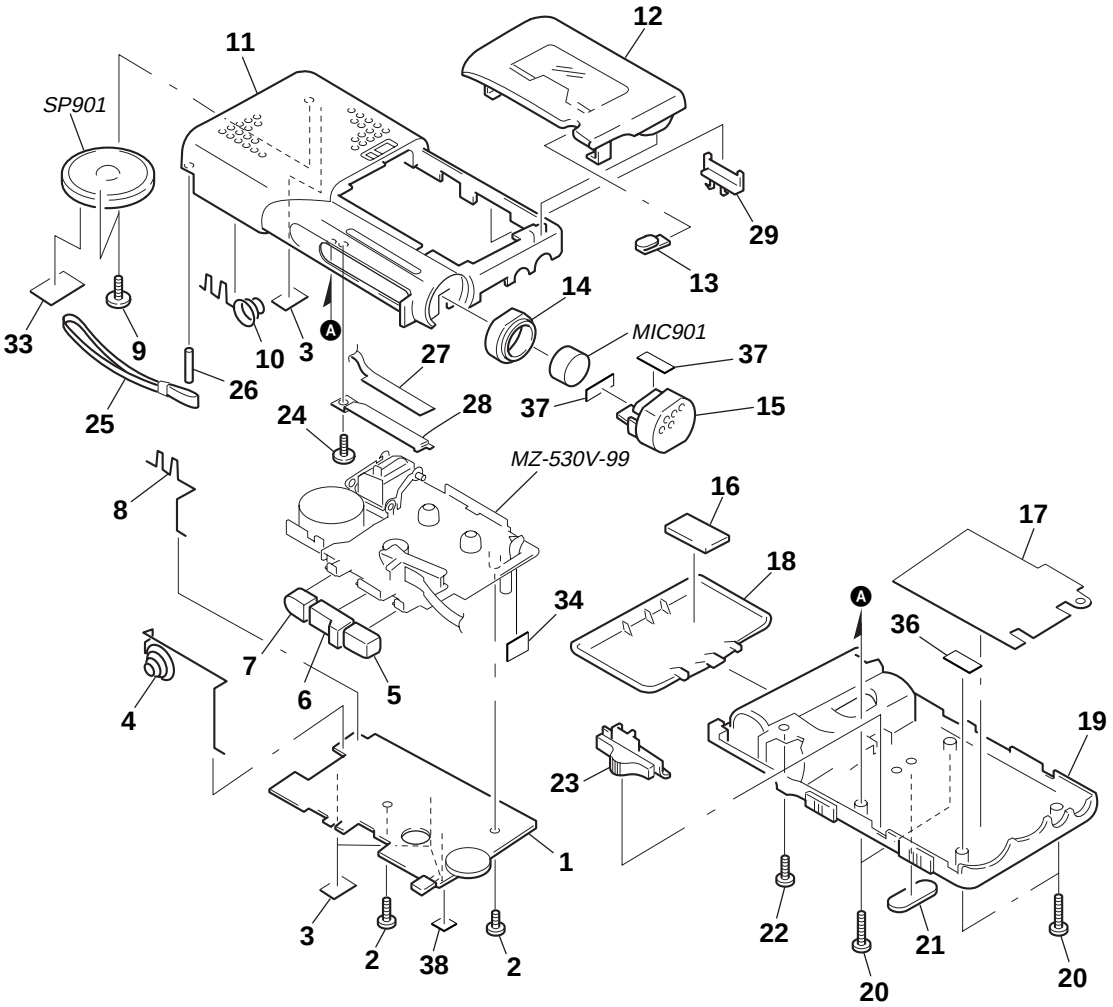
Ref. No.	Part No.	Description			Remark
		< COIL >			
L501	1-412-032-11	INDUCTOR CHIP 100uH (630V/635VK)			
		< TRANSISTOR >			
Q101	8-729-800-37	TRANSISTOR 2SD1048-X7			
Q102	8-729-402-84	TRANSISTOR XN4601			
Q103	8-729-230-72	TRANSISTOR 2SA1362YG			
Q104	8-729-230-63	TRANSISTOR 2SC4116-YG			
Q105	8-729-230-63	TRANSISTOR 2SC4116-YG			
Q106	8-729-420-50	TRANSISTOR UN5215			
Q107	8-729-402-84	TRANSISTOR XN4601			
Q108	8-729-230-63	TRANSISTOR 2SC4116-YG			
Q109	8-729-422-48	TRANSISTOR UN5217 (530V/535V)			
Q110	8-729-028-78	TRANSISTOR DTA115TUA-T106			
Q111	8-729-402-93	TRANSISTOR UN5214-TX			
Q112	8-729-402-33	TRANSISTOR 2SD1819A-S			
Q113	8-729-402-93	TRANSISTOR UN5214-TX			
Q501	8-729-402-96	TRANSISTOR UN5114 (630V/635VK)			
Q502	8-729-230-63	TRANSISTOR 2SC4116-YG (630V/635VK)			
Q601	8-729-230-60	TRANSISTOR 2SA1586-YG (630V/635VK)			
		< RESISTOR >			
R101	1-216-065-11	RES,CHIP	4.7K	5% 1/10W	
R102	1-216-065-11	RES,CHIP	4.7K	5% 1/10W	
R103	1-216-069-00	METAL CHIP	6.8K	5% 1/10W	(630V/635VK)
R104	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
R105	1-216-025-11	RES,CHIP	100	5% 1/10W	
R106	1-216-041-00	METAL CHIP	470	5% 1/10W	
R107	1-216-097-11	RES,CHIP	100K	5% 1/10W	
R108	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R109	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R110	1-216-065-11	RES,CHIP	4.7K	5% 1/10W	
R111	1-216-001-00	METAL CHIP	10	5% 1/10W	
R112	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R113	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R114	1-216-069-00	METAL CHIP	6.8K	5% 1/10W	
R116	1-216-033-00	METAL CHIP	220	5% 1/10W	
R117	1-216-037-00	METAL CHIP	330	5% 1/10W	
R118	1-216-093-11	RES,CHIP	68K	5% 1/10W	
R119	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R120	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R121	1-216-113-00	METAL CHIP	470K	5% 1/10W	
R122	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R123	1-216-097-11	RES,CHIP	100K	5% 1/10W	
R124	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R125	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R126	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R128	1-216-049-11	RES,CHIP	1K	5% 1/10W	(630V/635VK)
R129	1-216-049-11	RES,CHIP	1K	5% 1/10W	
R130	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R131	1-216-049-11	RES,CHIP	1K	5% 1/10W	
R132	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R133	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R134	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R135	1-216-025-11	RES,CHIP	100	5% 1/10W	
R136	1-216-121-11	RES,CHIP	1M	5% 1/10W	
R137	1-216-033-00	METAL CHIP	220	5% 1/10W	
R138	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R139	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	(530V/535V)
R140	1-216-009-11	RES,CHIP	22	5% 1/10W	
R141	1-216-013-00	METAL CHIP	33	5% 1/10W	
R144	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R147	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R149	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R150	1-216-105-11	RES,CHIP	220K	5% 1/10W	
R151	1-216-077-11	RES,CHIP	15K	5% 1/10W	
R501	1-216-037-00	METAL CHIP	330	5% 1/10W	(630V/635VK)
R502	1-216-037-00	METAL CHIP	330	5% 1/10W	(630V/635VK)
R503	1-216-049-11	RES,CHIP	1K	5% 1/10W	(630V/635VK)
R504	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	(630V/635VK)
R505	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	(630V/635VK)
R506	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	(630V/635VK)
R507	1-216-049-11	RES,CHIP	1K	5% 1/10W	(630V/635VK)
R508	1-216-037-00	METAL CHIP	330	5% 1/10W	(630V/635VK)
R509	1-216-073-00	METAL CHIP	10K	5% 1/10W	(630V/635VK)
R510	1-216-089-11	RES,CHIP	47K	5% 1/10W	(630V/635VK)
R511	1-216-105-11	RES,CHIP	220K	5% 1/10W	(630V/635VK)
R512	1-216-109-00	METAL CHIP	330K	5% 1/10W	(630V/635VK)
R513	1-216-073-00	METAL CHIP	10K	5% 1/10W	(630V/635VK)
R514	1-216-021-00	METAL CHIP	68	5% 1/10W	(630V/635VK)
R518	1-216-089-11	RES,CHIP	47K	5% 1/10W	(630V/635VK)
R601	1-216-105-11	RES,CHIP	220K	5% 1/10W	(630V/635VK)
R602	1-216-093-11	RES,CHIP	68K	5% 1/10W	(630V/635VK)
R603	1-216-049-11	RES,CHIP	1K	5% 1/10W	
R605	1-216-053-00	METAL CHIP	1.5K	5% 1/10W	
R606	1-216-121-11	RES,CHIP	1M	5% 1/10W	(630V/635VK)
R607	1-216-049-11	RES,CHIP	1K	5% 1/10W	

Ref. No.	Part No.	Description			Remark
R608	1-216-065-11	RES,CHIP	4.7K	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-237-731-21	RES, VAR, CARBON 10K (VOL)			
RV601	1-223-584-11	RES, ADJ, CARBON 2.2K			
RV602	1-223-584-11	RES, ADJ, CARBON 2.2K			
		< SWITCH >			
S101	1-572-964-11	SWITCH, SLIDE (REC/PB)			
S102	1-572-688-11	SWITCH, PUSH (1 KEY) (POWER)			
S103	1-692-605-31	SWITCH, SLIDE (VOR)			
S601	1-572-922-11	SWITCH, SLIDE (PAUSE)			
S602	1-692-298-11	SWITCH, SLIDE (TAPE SPEED)			
S603	1-572-922-11	SWITCH, SLIDE (FAST PB) (630V/635VK)			
		< THERMISTOR (POSITIVE) >			
THP601	1-810-552-11	THERMISTOR, POSITIVE			
THP602	1-803-117-11	THERMISTOR, POSITIVE			

• Correction of Exploded View
Page 17, 18

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model
  EE : East European model
  CH : Chinese model
  E : Indication of country of origin
  1E : No indication of country of origin
  JE : Tourist model



Ref. No.	Part No.	Description	Remark
1	A-3021-217-A	MAIN BOARD, COMPLETE (630V/635VK)	
1	A-3021-219-A	MAIN BOARD, COMPLETE (530V/535V)	
2	3-704-197-31	SCREW (M1.4X3.0), LOCKING	
3	3-831-441-99	SPACER, KNOB	
4	3-034-687-01	TERMINAL (-), BATTERY	
5	3-031-376-11	BUTTON (REC) (BLACK) (530V/535V)	
5	3-031-376-21	BUTTON (REC) (SILVER) (630V/635VK)	
6	3-031-375-01	BUTTON (PLAY) (BLACK) (530V/535V)	
6	3-031-375-11	BUTTON (PLAY) (SILVER) (630V/635VK)	
7	3-031-374-01	BUTTON (STOP) (BLACK) (530V/535V)	
7	3-031-374-11	BUTTON (STOP) (SILVER) (630V/635VK)	
8	3-034-686-01	TERMINAL (+), BATTERY	
9	3-034-792-01	SCREW (2X2.5), TAPPING (B)	
10	3-010-503-01	SPRING (B), BATTERY COIL	
11	3-032-409-01	CABINET (FRONT) (SILVER) (530V:1E)	
11	3-032-409-11	CABINET (FRONT) (SILVER) (530V:EXCEPT 1E)	
11	3-032-409-61	CABINET (FRONT) (BLACK) (535V:1E)	
11	3-032-409-71	CABINET (FRONT) (BLACK) (535V:EXCEPT 1E)	
11	X-3377-234-1	CABINET (FRONT) SUB ASSY (BLACK)	(630V:AEP)
11	X-3377-236-1	CABINET (FRONT) SUB ASSY (SILVER)	(630V:1E)
11	X-3377-238-1	CABINET (FRONT) SUB ASSY (SILVER) (635VK)	
11	X-3377-252-1	CABINET (FRONT) SUB ASSY (SILVER)	(630V:EXCEPT 1E)
12	X-3377-233-1	LID ASSY, CASSETTE (BLACK) (630V:AEP)	
12	X-3377-239-1	LID ASSY, CASSETTE (BLACK) (535V)	
12	X-3377-251-1	LID ASSY, CASSETTE (SILVER) (630V)	
12	X-3377-253-1	LID ASSY, CASSETTE (SILVER) (530V)	
12	X-3377-613-2	LID ASSY, CASSETTE (SILVER) (635VK)	
* 13	3-033-185-01	COVER (AZ) (BLACK) (535V/630V:AEP)	
* 13	3-033-185-11	COVER (AZ) (SILVER) (530V/630V/635VK)	
14	3-031-382-01	CUSHION (MIC)	
15	3-031-372-01	CASE, MICROPHONE	
* 16	3-914-930-01	CUSHION (BATTERY CASE LID)	
17	3-037-004-01	PLATE, SHIELD	
18	3-031-371-01	LID, BATTERY CASE (BLACK) (535V/630V:AEP)	
18	3-031-371-11	LID, BATTERY CASE (SILVER)	(530V/630V/635VK)
19	X-3377-318-1	CABINET (REAR) ASSY (SILVER)	(530V:EXCEPT JE)
19	X-3377-320-1	CABINET (REAR) ASSY (SILVER) (530V:JE)	
19	X-3377-321-1	CABINET (REAR) ASSY (SILVER) (630V/635VK)	
19	X-3377-322-1	CABINET (REAR) ASSY (BLACK) (630V:AEP)	
19	X-3377-323-1	CABINET (REAR) ASSY (BLACK) (535V)	
20	3-035-255-01	SCREW (1.7X16) (BLACK) (535V/630V:AEP)	
20	3-035-255-11	SCREW (1.7X16) (SILVER) (530V/630V/635VK)	
21	3-358-363-41	PLATE, BLIND (BLACK) (535V/630V:AEP)	
21	3-358-363-61	PLATE, BLIND (SILVER) (530V/630V/635V)	
22	3-318-203-71	SCREW (B1.7X5), TAPPING (BLACK)	(535V/630V:AEP)
22	3-318-203-72	SCREW (B1.7X5), TAPPING (SILVER)	(530V/630V/635VK)
23	3-036-668-01	KNOB (FR) (BLACK) (535V/630V:AEP)	
23	3-036-668-11	KNOB (FR) (SILVER) (530V/630V/635VK)	
24	3-318-382-31	SCREW (1.7), TAPPING (630V/635VK)	
25	3-328-319-01	STRAP, HAND	
26	3-669-481-07	PIN (DIA.1X10), PARALLEL	
27	1-468-399-11	LED UNIT (630V/635VK)	
28	3-031-395-01	BRACKET (LED) (630V/635VK)	
29	3-033-358-01	KNOB (VOR) (LIGHT GRAY) (530V/630V/635VK)	
29	3-033-358-11	KNOB (VOR) (DARK GRAY) (535V/630V:AEP)	
33	3-037-193-01	CUSHION (SP)	
34	3-036-882-01	SPACER (JACK)	
* 36	3-037-556-01	SHEET (A), GROUND	
37	3-037-192-01	SPACER (MIC)	
* 38	3-037-557-01	SHEET (B), GROUND	
MIC901	1-542-386-11	MICROPHONE, ELECTRET CONDENSER (MIC)	
SP901	1-529-188-12	SPEAKER (3.6cm)	

• Correction of Electrical Adjustment
Page 9
☛ : indicates corrected portion.

Note : Following corrections (☛) have been already corrected in the service manual (Part No. 9-926-961-12) and they are only for the service manual (Part No. 9-926-961-11).

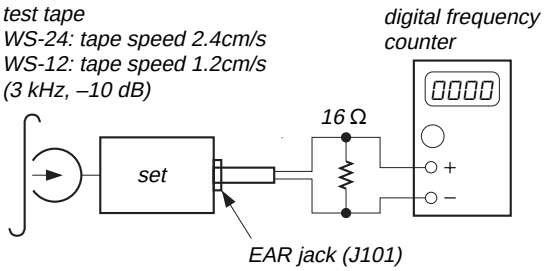
Tape Speed Adjustment

Setting:

VOL control : mechanical mid
VOR switch : OFF

Procedure: ☛ ☛

• Reform 1.2 cm/s speed adjustment before 2.4 cm/s speed adjustment mode : playback



1. Tape Speed : 2.4 cm/s ☛
   Playback WS-24 (tape center part) and adjust RV601 so that reading on the digital frequency counter becomes 3,000 Hz.

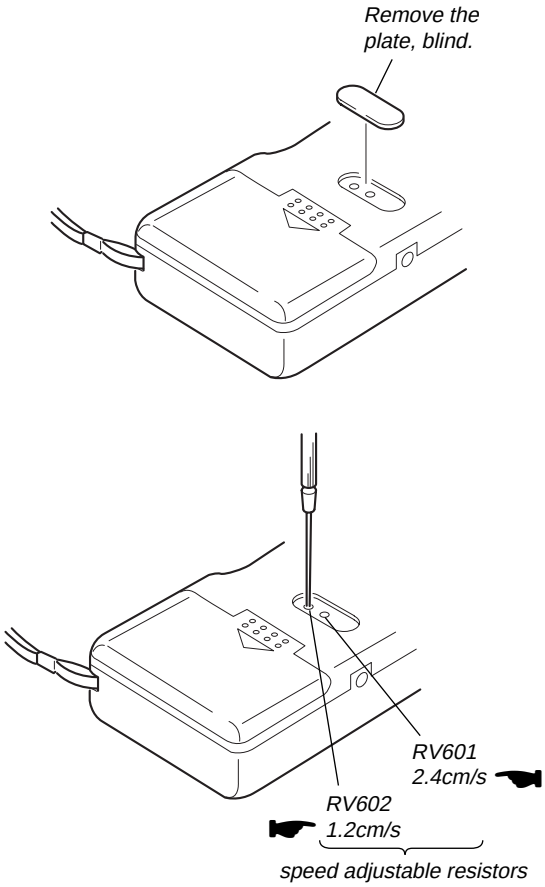
2. Tape Speed : 1.2 cm/s ☛
   Playback WS-12 (tape center part) and adjust RV602 so that reading on the digital frequency counter becomes 3,000 Hz.

Specification Value:

Tape Speed	Frequency counter
2.4 cm/s	2,880 to 3,120 Hz
1.2 cm/s	2,850 to 3,150 Hz

Frequency difference between the beginning and the end of the tape should be within ±0.5%.

2.4 cm/s (15 Hz)
1.2 cm/s (15 Hz)

Adjustment Location :

First remove the plate, blind.